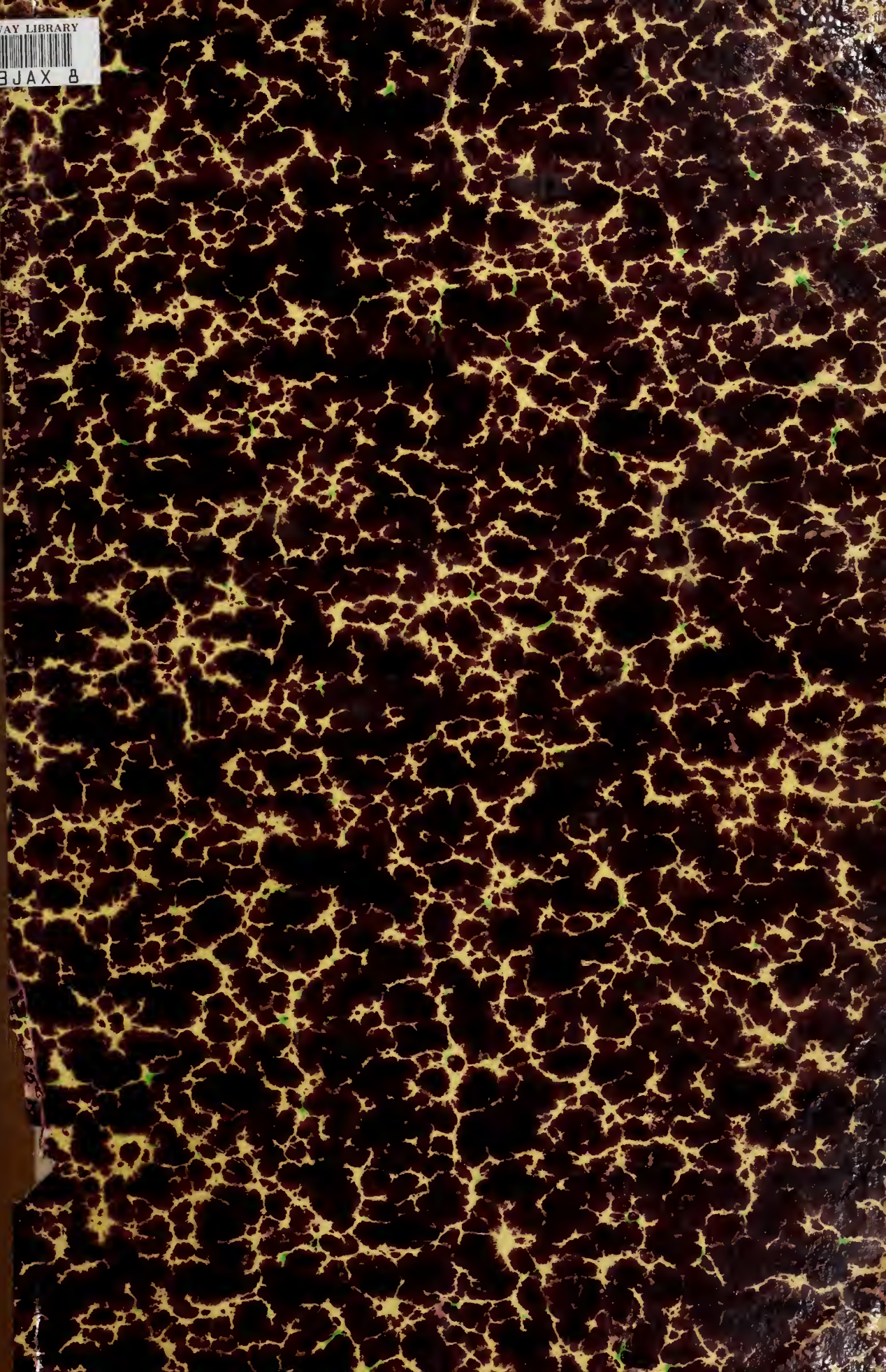


COUNTWAY LIBRARY



HC 3JAX 8



BOSTON
MEDICAL LIBRARY
8 THE FENWAY



Digitized by the Internet Archive
in 2016

<https://archive.org/details/journalofmedical9193alab>

THE JOURNAL

of

The Medical Association of the State of Alabama

\$3.00 per Annum, 25c per Copy
Vol. 9, No. 1

July 1939

Published Monthly in Montgomery
at 519 Dexter Avenue

CONTENTS

An Outbreak of Gastro-Enteritis Caused by Milk-Borne Staphylococci Producing an Enterotoxin, by C. A. Abele, Ch. E., and S. R. Damon, Ph. D., Montgomery	1	Editorials	20
The Prevention and Treatment of Allergy, by Dr. Marion T. Davidson, Birmingham	4	Postgraduate Education in Alabama	20
Alabama's Heritage from the Medical College of Alabama, by Dr. Toulmin Gaines, Mobile	8	Appendicitis	20
History of the Founding of the Birmingham Medical College, by Dr. D. F. Talley, Birmingham	11	The Association Forum	22
The Need for a Four-Year Medical School in Alabama, by Dr. Stuart Graves, University	13	Expanded Venereal Disease Program in Alabama	22
The University of Alabama and Medical Education, by Richard C. Foster, LL. D., University	17	Committee Contributions	24
Postgraduate Medical Instruction in Alabama, by Dr. J. S. McLester, Birmingham	18	Maternal and Infant Welfare	24
Legislation Providing for a Four-Year Medical School, by Dr. W. D. Partlow, Tuscaloosa	18	Prevention of Cancer	24
		Department of Public Health	25
		Specimens Examined	25
		Organization and Administration of Laboratories	25
		Accomplishments in Maternal and Child Health Service	27
		Progress in Inspection Activities	28
		Current Statistics	29
		Medical News	29
		Book Abstracts and Reviews	31
		Truth About Medicines	35

Entered as second-class matter July 9, 1931 at the post-office at Montgomery, Alabama, under the Act of March 3, 1879

The Unseen QUALITY OF DEXTRI-MALTOSE

DEXTRI-MALTOSE is no ordinary carbohydrate. Step by step, its manufacture is surrounded with every care and precaution, evolved through years of research. Unseen by physicians and patient are numerous safety factors, the practical effect of which nevertheless is present in every package of Dextri-Maltose. To name a few of these:

1. Dextri-Maltose is sampled for bacteriological testing before drying.
2. Steam at 20 pounds pressure sterilizes Dextri-Maltose filter presses which remove proteins, fat, and indigestible residue.
3. Blood agar tests are made to insure absence of hemolytic cocci.
4. Dextri-Maltose containers are paper-wrapped to prevent the cans from accumulating dust.
5. Bacteriological tests are made in a steam-washed plating room, the air of which is filtered.
6. Dextri-Maltose containers are automatically filled and closed without human handling of the product.
7. The direct microscopic test which Dextri-Maltose receives is but one kind of 6 microbiological tests which it must routinely meet.
8. Steaming under 20 pounds pressure sterilizes the converters for processing Dextri-Maltose.
9. After being packaged, Dextri-Maltose is held in storage and released only after final approval from the bacteriological checking laboratory.
10. Dextri-Maltose is tested routinely to check the keeping quality of prepared feedings held in refrigeration for 24 hours.

MEAD JOHNSON & COMPANY, Evansville, Ind., U. S. A.

IN WHY

THE EMULSION...

Petrolagar FOR CONSTIPATION

**No accumulation of oil in
folds of mucosa.**

#

4

1. Petrolagar is more palatable. Easier to take by patients with aversion to plain oil—may be thinned by dilution.
2. Miscible in aqueous solutions. Mixes with gastrointestinal contents to form a homogeneous mass.
3. Does not coat intestinal mucosa. Petrolagar is an aqueous suspension of mineral oil — oil in water emulsion.
4. Will not coat the feces with oily film.
5. Does not interfere with secretion or absorption.
6. Augments intestinal contents by supplying an unabsorbable fluid.
7. More even distribution and dissemination of oil with gastro-intestinal contents.
8. Assures a more normal fecal consistency.
9. Less likely to leak.
10. Provides comfortable bowel action.
11. Makes possible five types of Petrolagar to select from to meet the special needs of Bowel Management.

*Petrolagar — Liquid petrolatum 65 cc. emulsified
with 0.4 Gm. agar in a menstruum to make 100 cc.*



Petrolagar

Petrolagar Laboratories, Inc. • 8134 McCormick Boulevard • Chicago 70, Illinois

THE JOURNAL

of

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Published Under the Auspices of the Board of Censors

Vol. 9, No. 1

Montgomery, Alabama

July 1939

AN OUTBREAK OF GASTRO-ENTERITIS CAUSED BY MILK-BORNE STAPHY- LOCOCCI PRODUCING AN ENTEROTOXIN

By
C. A. ABELE, Ch. E.
and
S. R. DAMON, Ph. D.
Montgomery, Ala.

Staphylococci growing in milk were first shown to be the cause of gastro-enteritis by Barber,¹ and since this early observation such organisms growing in milk or milk products have been implicated in the production of food poisoning by several investigators, as, for example, Crabtree and Litterer,² and Shaughnessy and Grubb.³

Beginning January 10, 1939, an outbreak of gastro-enteritis, characterized by nausea, vomiting and diarrhea, occurred in the City of Geneva, Alabama—population 1593 (1930)—in which milk quality control had not been inaugurated by the County Health Department. At least 27 cases were recorded.

On January 10 a prescription was obtained at one of the local drug stores for use in the treatment of a case of nausea and diarrhea. On January 11, the physicians of the community were called upon to treat 12 cases. Another case was treated on January 12, and 9 additional cases developed on the 13th. Several apparently unrelated cases were reported to have developed after January 13, and in one instance a second attack occurred.

The following characteristics were common to a majority of the cases: Onset occurred in two-and-one-half to four hours after

ingestion of the last food, the body temperature was neither elevated nor depressed, and in all instances recovery was rapid. Nausea and vomiting, diarrhea, severe cramping pains in some cases, with numbness of the extremities, depression in the chest region and shock were common symptoms. A mild rash or urticaria was reported by one victim. In several instances morphine was administered to relieve rigor, and in a few cases second visits were made by the physicians. None terminated fatally.

When the existence of the outbreak was brought to the attention of the County Health Officer an immediate investigation was instituted. The possibility that the water supply was involved in the dissemination of the causative agent was eliminated by the first studies, since several private sources as well as the municipal supply were used by the victims. Nor was any food product other than milk found to have been used in all the families affected during the period of the outbreak. Several circumstances, however, indicated that milk might have been the cause of the illness, and the epidemiologic evidence pointed rather conclusively to one particular milk supply as the source of the trouble. One of the victims was on a diet of milk, eggs, sugar and water; and, except for two other cases in the same family, milk was the only article of this diet from a source common to most other cases in the outbreak. Another of the victims in the outbreak went to work without breakfast on the morning of January 13 but purchased a glass of milk at a nearby soda-fountain about 9:30 A. M.; no other food was partaken of; about noon nausea and diarrhea developed suddenly and simultaneously. The proprietor of the drug store also partook of the same bottle of milk and suffered a milk attack of gastro-enteritis. Subsequently it was established that the dairy then under suspicion supplied one quart of milk daily to this drug store and that a fresh bottle of milk had been opened to supply this victim, though the exact

The authors are, respectively, the Director of the Division of Inspection and of the Bureau of Laboratories of the State Department of Health.

1. Barber, M. A., *Phillipine J. Sci.*, 1914, 9: 515.

2. Crabtree, J. A., and Litterer, W., *Am. J. Pub. Health*, 1934, 24: 116.

3. Shaughnessy, H. G., and Grubb, T. C., *J. Infect. Dis.*, 1936, 58: 318.

source of this bottle was, a week later, uncertain.

Geneva is supplied with milk by four commercial dairies and an unknown number of family cows, some of the milk from which is sold to neighbors. One of the commercial dairies supplied milk to the families in which 21 of the 27 cases occurred, and two other cases very probably drank milk from this dairy at the soda-fountain. Of the four remaining cases, two were in families obtaining milk from their own cow, and the other two victims were children with very mild cases, the occurrence of which at this time was very probably due to other causes and must be regarded as merely coincidental.

When it was seen that the epidemiologic evidence pointed to a particular dairy as the one implicated in causing the illness, samples of milk from each of the five cows milked at this dairy and from some partly used bottles were delivered to the State Laboratory by the County Health Officer for bacteriologic examination on January 14th. The bacterial counts obtained on the samples are shown in Table I.

TABLE I
BACTERIAL COUNTS ON MILK SAMPLES EXAMINED JANUARY 14th

1. Portion of qt. used by patient	1,800,000 per cc.
2. Part of quart bottle	5,700,000 per cc.
3. Pint bottle of milk	8,300,000 per cc.
4. "Brownie"	85,000 per cc.
5. "Watson"	160,000 per cc.
6. "Grace"	82,000 per cc.
7. "Enoch"	130,000 per cc.
8. "Smith"	230,000 per cc.

These counts, while high, are not to be taken too seriously, however, as the samples 1, 2 and 3 were from 48 to 72 hours old when examined, and the samples taken from each individual cow were not collected in sterile containers. These results, therefore, are inconclusive, though examination of the sediment from centrifuged portions showed that mastitis, or garget, probably existed in the herd.

The next step in the investigation of the outbreak was taken on January 17th when the dairy was visited by a representative of the State Department of Health and the Meat and Dairy Inspector of Houston County, a veterinarian, for the purpose of examining the cows in the suspected herd for evidence of mastitis. At this time it was determined that, of the five cows in the herd, four had indurated udders in which hard,

fibrous lumps were detectable on palpation. At milking time the strip-cup test was also employed to detect any evidence of mastitis, and the milk from each quarter of the five cows was subjected to the bromthymol-blue test. The milk of but one cow appeared to be abnormal at the time of the strip-cup test, as determined by taste, while three appeared to be abnormal by the color test. At this time pooled samples from the four quarters of each cow were collected directly into sterile containers, and taken at once to the laboratory for microscopic examination of a centrifuged portion, and culture.

Table II summarizes the results of the physical examinations of the udders, the strip-cup tests, and the bromthymol-blue tests.

TABLE II
RESULTS OF PHYSICAL EXAMINATION, STRIP-CUP AND BROMTHYMOL-BLUE TESTS ON SUSPECTED COWS

Name of Cow	Udder Palpation	Strip-Cup	Bromthymol-Blue
1. "Brownie"	Normal	—	—
2. "Watson"	Indurated	—	+
3. "Grace"	Indurated	—	+
4. "Enoch"	Indurated	— (Bitter)	+
5. "Smith"	Indurated	—	—

Table III presents the results of the microscopic examination of sediment smears, and the mixed culture growth on Loeffler blood-serum slants inoculated from the milk samples.

TABLE III
RESULTS OF DIRECT SMEARS AND LOEFFLER CULTURES

Name of Cow	Direct Smear	Loeffler Culture
"Brownie"	Gram positive bacilli	Staphylococci
"Watson"	Negative	Gram positive bacilli
"Grace"	Pus cells, Gram positive intracellular cocci	Staphylococci
"Enoch"	Negative	Staphylococci
"Smith"	Negative	Staphylococci

At this time plate counts were made from these aseptically collected samples, using Standard Methods extract agar, with the results shown in Table IV.

TABLE IV
BACTERIAL PLATE COUNTS ON ASEPTIC SAMPLES FROM SUSPECTED COWS

Name of Cow	Count on Extract Agar Plates
"Brownie"	1400 per cc.
"Watson"	1300 per cc.
"Grace"	3600 per cc.
"Enoch"	50 per cc.
"Smith"	0 per cc.

From the results of the examinations shown in Tables II, III and IV it appears that the strip-cup tests were less helpful in indicating abnormality than the bromthymol-blue tests and palpation of the udders, that four of the five cows were yielding milk in which staphylococci were present, but that none of the cows were secreting milk having an unusually high bacterial content.

With the above suggestive information in hand it was decided to investigate next the enterotoxin-producing capacity of the staphylococci shown to be present in the milk of the cows in the suspected dairy. However, one of the samples—that from the cow named “Watson”—was discarded, as smears made from the Loeffler slant inoculated from the sediment of the centrifuged portion showed only Gram positive bacilli; the others were used to seed blood agar pour plates. These plates were incubated at 37°C. for 20-24 hours and then examined for beta-type hemolytic colonies. On all the plates colonies of this type appeared. In consequence, several pure cultures were fished from each of the plates and representative cultures selected for the enterotoxin tests. These cultures were grown in semi-solid agar for 40 hours at 37°C., in an atmosphere of 30% CO₂, following the procedure of Dolman and Wilson.⁴ After incubation the agar was filtered through gauze and cotton, and finally through Seitz filters, in order to obtain a bacteria-free filtrate. These filtrates, after destruction of the specific hemolytic, necrotizing, and acutely lethal factors, by heating in a boiling water bath for 30 minutes, were then injected intraperitoneally into kittens, with the results shown in Table V.

TABLE V
RESULTS OF ENTEROTOXIN TESTS OF REPRESENTATIVE STRAINS OF BETA-TYPE HEMOLYTIC STAPHYLOCOCCI ISOLATED FROM INDIVIDUAL COWS

Source of Culture	Hemolysis of Culture	Kitten Reaction
“Brownie”	Small colonies with slight hemolytic area	No reaction
“Grace”	Strongly beta hemolytic colonies	Nausea, vomiting and one bowel movement in 1 hour
“Enoch”	Small colonies with slight hemolysis	As above
“Smith”	As above	No reaction

4. Dolman, C. E., and Wilson, R. J., *J. Immunol.* 1938, 35, 13.

These results correspond to those obtained by other observers in similar tests and may be interpreted as indicating that the filtrates of the cultures isolated from the cows “Grace” and “Enoch” contained enterotoxins which elicited the symptoms noted in the kittens.

SUMMARY

An outbreak of gastro-enteritis has been described in which the epidemiologic evidence pointed to milk from a particular dairy as the source of the illness. An investigation of this particular dairy brought to light the following facts:

1. The milking herd consisted of five cows which were milked by hand and the milk of which was pooled.
2. The utensils used—pails, bottles, filling funnels, etc., were washed and scalded in the family kitchen and stored in a screened “safe” on the rear porch of the house.
3. The filled milk bottles were capped by hand, but there was no illness in the family of the proprietor of the dairy.
4. Examination of the milk from each of the cows, using the strip-cup, did not yield any evidence of abnormality such as lumps or strings.
5. The milk from one cow, which later yielded enterotoxin-producing staphylococci, was bitter to the taste.
6. Examination of the milk from each quarter of the cows, using the bromthymol-blue test, indicated that three of the five cows were producing abnormal milk.
7. Palpation of the udders indicated that four of the five cows had, or had had, mastitis, as shown by the presence of fibrous tissue.

8. Bacterial counts made on samples of milk from each cow did not show any particularly large number of organisms to be present in the milk.

9. Blood agar pour plates made from the milk of four of the individual cows yielded beta-type hemolytic staphylococci.

10. Tests of bacteria-free semi-solid agar filtrates of representative cultures of the staphylococci from the milk of two of these cows injected into kittens produced nausea, vomiting and bowel movements.

11. The pooling of the milk from these cows and the lack of refrigeration facilities offered ample opportunity for the rapid multiplication, with the production of en-

terotoxin, of any organisms that might have been present.

Note: The two cows involved were promptly sold for beef.

THE PREVENTION AND TREATMENT OF ALLERGY*

By

MARION T. DAVIDSON, M. D.
Birmingham, Ala.

A better title for this paper might have been "Some Suggestions for the Treatment and Possible Prevention of Allergy." Many who see my title will feel that it is a very ambitious one. In view of the small amount of knowledge on the cause of allergy, that feeling may be justified. However, some diseases have been practically eradicated from the earth although little or nothing was known of their causes. Instances are smallpox and yellow fever. In the case of smallpox the discovery of the immunizing effect of a much milder infection gave the clue to prevention while in the case of yellow fever the discovery of the mode of transmission gave the solution.

Although we know nothing about the cause of allergy, we do know that contacts with or use of certain things in our environment precipitate the attacks and that avoidance of these exposures, when that is possible, often prevents recurrence.

There are numerous rules given to allergic sufferers for escape from the harmful contacts. The idea behind this paper is that if the avoidance of exposure to well known allergens will prevent the recurrence of attacks, even after the establishment of the allergic state, perhaps the elimination of many of these things from our environment might prevent the development of allergy in many individuals.

It has been thought that allergy might be eradicated by eugenic measures. People with asthma or hay-fever were advised not to marry those similarly affected or not to have children. Such measures might be effective if the allergic disposition were limited to a certain percentage of the population, as has been thought. However, more recent developments make it seem probable

that all members of the human family may be capable of allergic reaction. Several surveys of large groups have been made and reports show that as high as sixty per cent of all those questioned had had some allergic manifestations in their lives.

The largest percentage of substances which precipitate allergic attacks are proteins; and it seems probable that we are familiar with ninety per cent of the actual precipitating causes of allergic attacks. Many of these allergens could be eliminated from any particular environment with comparative ease. Some could be partially avoided by various means, while in the case of others escape seems practically impossible.

There are many cases of allergy in which sensitivity to one allergen seems to be almost the whole story. Most of us are familiar with cases of fall hay-fever that never have any troublesome symptoms except during the season when ragweed pollen is in the air. There are many patients in whom sensitivity to one pollen, to an animal hair, to house dust or to some one food seems to be practically the entire history. I believe that in many cases, if the initial exposure to that particular allergen could have been prevented, the individual might have gone through life without allergic manifestations.

This suggests the advisability of early routine testing of every one. It is entirely possible that this might help many people to avoid the initial contacts which might precipitate clinical allergy. Of course, there is no evidence that skin sensitivity precedes constitutional sensitivity but the earlier the condition can be discovered the better the chance of eradicating it.

Let us now make a survey of the well known allergens, as complete as possible in the time at our command, and see if methods of avoiding contacts might not be at the same time helpful in treating present cases and in preventing development of future cases. For purposes of convenience we divide allergens into miscellaneous inhalants, pollens, foods and contactants. There is a great deal of overlapping of allergens in the various groups, and under varying conditions almost any allergen may occur in any of these groups.

We will start with allergens usually placed in the group of miscellaneous inhalants. Beginning with the most important mem-

*Read before the Association in annual session, Montgomery, April 19, 1939.

bers first, I shall start with house dust. There is a big question as to whether house dust should be considered one separate allergen or a combination of many. No doubt it is composed of all the lint and dust from rugs, carpets, mattresses, pillows and upholstered furniture and all articles found in the house which make or hold dust. However, many attempts have been made to separate house dust into its constituents but thus far they have met with failure. For our purposes, then, we still consider house dust as one allergen.

The elimination of house dust involves removal of carpets and rugs from floors, removal of curtains and draperies from walls, and the encasing of pillows and cushions and mattresses in dust-proof covers. The ideal is to treat the whole house similarly, but practically it has been found sufficient in most cases to treat the bedroom alone.

The bedroom should have no carpets or rugs on the floors, nor curtains or draperies which catch and hold dusts. No upholstered furniture should be allowed and only plain wood chairs and tables should be used. Mattresses, pillows and cushions should be encased in dust-proof materials. Materials for this purpose are made of cotton or silk rubberized sheeting. No loose clothing should be allowed in the bedroom and no accumulation of books or papers or other objects which may catch or hold dusts. The bedroom especially, and preferably the whole house, should be cleaned thoroughly and frequently with wet cloths and all sweeping should be done with vacuum cleaners or mechanical sweepers which hold dust to a minimum.

Next most important after house dust are feathers and animal hairs. The use of pillows and comforters stuffed with feathers is practically universal, and there are few homes in which cats or dogs may not be found. This is even true of many small apartments. Encasing pillows in dust-proof covers will go a long way toward handling the feather problem and animals should never be kept in the home. Many people can stand contacts with animals in the open air who are severely affected by such exposure in a closed house or other building. But the problem offered by animal hairs and feathers is not so simple as this. Upholstered furniture and cushions may contain hair of various animals and feathers of various

fowls. Ozite pads used under carpets and rugs are made of cow or hog hairs. Carpets contain goat hair, camel hair, horse hair, wool and hairs of other animals.

Enclosing pillows, cushions and mattresses in dust-proof casings is usually effective for these articles but for other household effects containing hairs or feathers complete elimination from the home is the only measure of any value. A person sensitive to cow or hog hair might just as well have one of these animals stabled in the home as to have a pad made of the hair under a rug or carpet.

The almost universal use of cosmetic preparations has made that custom a prolific source of trouble to many people. Powders, rouges, creams, oils, soaps and all other cosmetics may contain allergenic materials. Orris root is the ingredient most often causing symptoms. Other ingredients frequently involved, however, are rice, corn or other starches, perfumes from many sources, lanolin or other organic fats and oils, and a long list of other materials.

There are now on the market several brands of cosmetics which are free of most of the more commonly allergenic materials. These so-called non-allergic cosmetics should be used by all sufferers from allergy and their universal use would eliminate orris root as a common cause of trouble. The elimination of allergenic cosmetics involves the use of unscented soap; and for tooth pastes and tooth washes, which may contain allergens, a mixture of table salt and sodium bicarbonate in equal parts makes a good substitute.

Other allergenic materials in frequent use and which can be eliminated from contacts are flaxseed, used widely in hair waving solutions and in poulticing; pyrethrum which is an ingredient of many insecticides, and glue which is contacted most often by licking postage stamps and envelopes.

Of vital importance in the attempt to eliminate allergenic materials from human contacts is the question of heating and cooling homes, offices and workshops. Taking heat first, the least desirable type is the hot air circulating system or so-called hot air furnace. The large, open pipes used in the hot air systems are impossible to keep clean and as long as heat is applied they maintain a constant flow of dust-laden air into the house. Hardly more desirable are open fire places and stoves burning either coal or

wood. These are just as impossible to keep clean as the hot air furnace.

Most desirable of the now available heating systems are those using hot water or steam circulating through pipes and radiators. The radiators can be kept clean and free of dust. Radiators should be as simple as possible with few subdivisions so as to allow of easy cleaning.

Air conditioning of homes and offices with filtered and cooled air for summer is most desirable. Filtering systems which remove dusts and pollens from the air will be very helpful in handling the pollen problem. The air conduits for use in cooling systems should be short and easily accessible for cleaning. The last word has not been said in air conditioning as many of the systems now in use have the same undesirable features as the hot air heating systems.

While on the subject of the home it would be well to describe the ideal type of house. Omission of wood from construction is most desirable. The use of brick, stone or concrete for walls and floors and of metal framing of iron or steel would render the house practically inaccessible to small animals and insects, thus eliminating these pests as possible sources of trouble; and, at the same time, make unnecessary insecticides which so frequently contain allergenic materials.

Proper finishing of the inside of the house is just as important as the type of construction. The walls should be painted over smooth material, preferably plaster; certainly not over canvas pasted on with flour paste as is frequently used. Also, decorative painting would eliminate the need for pictures or draperies which catch and hold dusts.

The most desirable type of flooring would be heavy battleship linoleum since this has a smooth finish without cracks or crevices and consequently can be easily cleaned. Further, since this can be obtained in decorative designs, it would eliminate the need for carpets and rugs. Another aid would be the rounding of corners and angles.

Such a house as this, heated in winter with hot water or steam circulating through closed pipes and radiators, and with filtered air, cooled in summer, would be ideal for most allergic individuals. This freedom from contact with organic, allergenic materials should also help to prevent the development of allergy in many potentially allergic.

Filtering the air of homes and work shops is the most practical method of avoidance of contacts with air-borne pollens. Efficient filtration removes a very large percentage of pollens and dusts from the air. The average individual spends between one-third and one-half of his time in his home. Then, if the air of the office or work shop were filtered, the question of escape from air-borne pollens would be very largely accomplished. The amount of pollen inhaled would be reduced in proportion to the amount of time spent in filtered air. Relief from symptoms would be in proportion to the time thus spent. Also, the greater the reduction in pollen inhaled by the whole family the less the chance of sensitizing members not already showing symptoms. Of course, flowers, grasses or other pollen-laden matter should never be taken into such a home.

The question of avoidance of food sensitivities is one on which we do not have much definite information. There are some known facts, however, which shed light on the problem. In the first place, we know that the foods which are the most common causes of food allergy are those eaten first and most intensively. Milk, the cereal grains and eggs are the foods given initially in infancy. They are also the ones used most intensively throughout life. Many people who escaped sensitization to these foods in childhood will give a history of having taken a diet of forced feeding of milk or eggs shortly prior to the beginning of allergic symptoms.

In the past decade or two there has been an ever increasing tendency to feed infants earlier and with an ever increasing variety of foods. This has been made possible by the wide variety of specially prepared, canned and packaged foods for infant feeding. Now by the time an infant is six months old, it is often getting almost as large a variety of foods as a grown person.

I believe that the early feeding of infants is responsible for the apparent and probably real increase of allergy in young children. I also believe that the remedy for this situation is a return to a more normal order of things. Nurse the baby through the first six to eight months of life. Nature provides teeth about the time our gastro-intestinal canals are old enough to handle artificial foods. The tender young mucosa of the intestinal canal is not able to digest artificial foods until it reaches a certain age and foods

pass directly into the circulation in much larger quantities than normal if taken prior to that age. Then, too, the pureeing and liquefying of foods makes their passage directly into the blood stream much easier. This absorption of proteins unaltered by digestion is probably the cause of sensitivity to foods.

Another lesson to be learned from experiences with food allergy is that if you wish to escape food sensitivities avoid food fads. Eat a well rounded diet consisting of as many different food articles as possible and do not allow yourself to get into the habit of depending too largely on any one food or any group of foods. Especially do not allow yourself to get into the habit of depending too largely on milk, eggs or cereal grains.

There is one other observation on food allergy which offers help. The class of foods called condiments are common causes of allergic sensitivities. Since these foods are largely non-essentials they could be used much less with great advantage to many. Allergic sensitivities to this group of foods, no doubt, account for their harmful effects in many types of stomach disorders. Sodium chloride and cane sugar are condiments without allergenic qualities.

Finally, a paper of this kind would hardly be complete without reference to the use of medicines in the treatment of allergy. There are few of these having any directly beneficial effects but many which are definitely harmful. A list of medicines which frequently display allergenic qualities includes quinine, bromides, arsenicals, salicylates, barbiturates and any preparation from an organic source and many not of organic origin. A good rule is always to inquire before writing prescriptions about the presence of any allergic tendencies toward medicines.

In writing prescriptions, for allergic individuals especially, weigh each ingredient carefully in your mind and do not put it in unless you expect specific benefit from it. Do not use the shotgun mixtures so prevalent today as you are almost certain to find at least one or two ingredients in each which will be harmful to any allergic sufferer. Even the coloring or the flavoring ingredient may do more harm than the medicinal agent can overcome. Sensitivity to mint, chocolate or cinnamon flavoring may make liquids or tablets more harmful than helpful.

Whenever possible I put the desired medicinal agent in a capsule and give it alone. When liquids are necessary, simple elixir or simple syrup without other flavoring makes the most desirable vehicle.

Vitamine preparations are now considered so important that one must be familiar with their source materials to use them wisely in allergy. The fish liver oils are most valuable when used properly. In my experience cod liver is the least common reactor on allergic individuals and halibut liver and tuna fish are among the most common reactors of all the allergens. The percomorph oils are such a mixture that it would be impossible to predict what effect any one specimen might have. Cod liver oil and its concentrates are best for allergic individuals.

Sensitivities to cereal grains or to yeasts may cause any of the vitamine B preparations to be more harmful than helpful, and sensitization to lemon, orange, grapefruit or tomato may be a definite contraindication to the use of the vitamine C mixtures. Whenever vitamine therapy is desirable, my rule is to give pure crystalline vitamins, if that is possible, but even they are closely enough related to their source materials to cause allergic response in some individuals.

In conclusion, this paper sets forth a number of rules which have been found helpful in the treatment of allergic patients. It is believed that the universal observance of these rules would prevent the development of sensitivities in many individuals. It is also hoped that this may furnish an introduction to the study of the prevention of allergy.

Undescended Testes—Certain essential factors must be fulfilled when we operate to correct undescended testes, be it unilateral or bilateral, if we are to expect a successful result. The preservation of the blood supply of the already physiologically hampered testis gives it every chance to grow and function. In creating a bed for the testis the rudimentary scrotum must be stretched to overcome the contracture of the dartos muscle. Lengthening the spermatic cord to permit the testis to lie in the bottom of the scrotal sac without exerting undue traction on the vessels is also essential. If by careful dissection the cord cannot be sufficiently lengthened, which occurs in a very small percentage of the cases, a successful result is automatically obviated.—Donald, *South. M. J.*, June '39.

ALABAMA'S HERITAGE FROM THE MEDICAL COLLEGE OF ALABAMA*

THE MEDICAL DEPARTMENT OF THE
UNIVERSITY OF ALABAMA, MOBILE, FROM
1859 TO 1920

By
TOULMIN GAINES, M. D.
Mobile, Alabama

More than half a century before the founding of Jamestown, Virginia, the degree of Doctor of Medicine was awarded for the first time in America by the Spaniards at the University of Peru. More than a century after the founding of Jamestown, a French colony moved to the present site of Mobile. Lest this might seem to modernize Mobile, we will note that this occurred a century before Tuscaloosa emerged from its bloody Indian battlefields.

At the time of the founding of the original Mobile colony in 1702, there were twenty-six thousand colonists in what is now the United States. During the sixty-one years that Mobile was a French colony, secular education was at a very low ebb. The priests confined their work to religious instruction, and many of the colonists could not write their names. At the Treaty of Paris in 1763, following the Seven Years' War of England against France and Spain, Cuba was returned to Spain by England; and Louisiana, west of the Mississippi, was given to Spain by France; while England received from France all of the territory east of the Mississippi; and from Spain the entire State of Florida. Mobile, which had been a point of controversy as to its being a part of the French Louisiana colony or a part of Spanish West Florida, now became a British possession. From 1763, therefore, the English language became the medium of education. The Governor, Maj. Robert Farmer, was a cultured gentleman who could quote the classics, ancient and modern. The Reverend William Gordon, an Episcopal minister, conducted the first school; and there is a record in 1768 of an appropriation of twenty-five pounds for a schoolmaster.

After thirty years of beneficent British

rule, the War of Independence found the French citizens of Mobile indifferent to the struggle; while the British ruling class was strongly Tory in its sympathies. Benjamin Meek, in his "Romantic Passages in South-western History," describes the Mobile colony at this time as "weak, isolated, and dependent upon the guardian care of a paternal government, which gave only a smile of derision at 'the Bostonian Liberty Boys,' as the American patriots were termed." When Spain, which had tacitly sympathized with the Continentals, finally, in the third year of the American Revolution, declared war against England, the Spanish Governor of Louisiana, the gallant Galvez, considered the Mobile colony of British loyalists his lawful prey. He therefore came over from New Orleans and took possession of Mobile which then became "a little Spanish town" in 1779.

When the war was ended three years later, England ceded Florida back to Spain. Therefore, when Louisiana was taken from Spain by Napoleon in 1800 and sold to the United States in 1803, Mobile was not included as it was a part of the Spanish possession of Florida. This had been agreed upon by the United States and Spain in 1799, the year of the death of George Washington, and just before the capitol was moved to Washington, D. C. At this time the southern boundary of the United States was established at the thirty-first parallel, which is about twenty miles north of Mobile. A Spanish possession for twenty years, Mobile was destined to remain beyond the pale for fourteen years more; for it was not until 1813 when, during the second war with England, the United States Government took advantage of Spain's indirect hostility and sent General Wilkinson across the line to capture Mobile. Thus, after being French for sixty-one years, British for sixteen years, and Spanish for thirty-four years, Mobile finally became an American town just six years before Alabama was admitted to the Union. Is it to be wondered at that Mobile has always seemed somewhat different from the rest of the State?

Dr. A. B. Moore in his History of Alabama tells us that when Galvez occupied Mobile he found it with a population of French, English, Irish, Scotch, Indians and Americans, and to these were now added Spanish. He overlooked the Negroes who had been

*This paper and the succeeding ones by Drs. D. F. Talley, Stuart Graves, Richard C. Foster, J. S. McLester and W. D. Partlow were read before the Association's public meeting, Montgomery, April 19, 1939—the theme being "Medical Education in Alabama."

brought there from 1707 on. During the thirty-four years that followed, many of the settlers crossed the American line and joined the cosmopolitan crowd; a few during the first twenty years of Spanish rule and many more after the line was established, for at this time the country was filling up with pioneers from Georgia, South Carolina, North Carolina, Virginia and Tennessee. In 1800 there were a million inhabitants west of the Alleghenies; in 1830 there were three and a half million. From 1821 to 1830 one hundred and fifty-two thousand immigrants came to the United States. By 1850 there were fifty thousand Scotch-Irish in America and a large number of these settled in Alabama. Up to 1850 many so-called settlers came and stayed long enough to dispose of their land and move on to Texas; but, later on, temporary settlers were replaced by permanent farmers. Dr. Minnie Clare Boyd in her "Alabama in the Fifties" describes the State as at that time presenting great contrasts as shown by this quotation: "from the effete civilization of the Black Belt to the Piney Woods; from Mobile's old world cathedral to log chapel; from the God fearing Scotch-Irish of Valley Creek to the riotous polyglot population of the port." Dr. Moore thus presents the contrast between Mobile and the State at an earlier period: "In the city, monarchy and aristocratic sentiments; in the state, rampant democracy with sentiments of equality: in the one Catholicism with its chants; in the other, Protestantism with its long meter hymns: in the one, foreign tongues and patois; in the other, English though much modified."

The first attempt at public education in Mobile was made in 1826. In 1849, thirty years after Alabama entered the Union, Mobile was characterised as a town of many schools, there being eleven private schools besides the parochial ones. So we see what a change was effected when the boundary barrier was broken down, and the cultured people from the Carolinas and Virginia came pouring into the little foreign city. The first organized public school in the State was opened at Barton Academy in 1852. Two years later a bill was passed providing for the establishment and maintenance of public schools in Alabama. The author of this bill, Dr. A. Benjamin Meek, had entered the University with its first class when it opened its doors in 1831. At different periods of

his useful life both Tuscaloosa and Mobile were honored with his citizenship.

The same year that saw the opening of the first public school in Mobile also saw the efforts of Miss Dorothea Dix and her trusted helper, Dr. Loranz of Mobile, crowned with success by the passage by the Legislature of an act to establish a hospital for the insane. After many delays and vicissitudes this wonderful hospital opened its doors in Tuscaloosa just two years after the medical college began its work in Mobile.

From 1830 to 1840 the population of Mobile increased from three thousand to twelve thousand. Many people of prominence or destined to be prominent had come to dwell in Mobile at that time. Among them was Dr. Josiah C. Nott from Charleston, S. C., who, at the age of thirty-one, came to Mobile, one year before the great yellow fever epidemic of 1837. Fifteen years later Dr. Wm. H. Anderson came from Virginia to Mobile, one year before the next great epidemic of yellow fever in 1853. Thirty years before this, in 1823, laws had been passed by our four-year old State for the protection of the people and the honour of the profession.

Our State Medical Association, which was founded in 1847, was enabled by its records of this and other measures to refute the unfair aspersions cast on the medical situation in Alabama by the American Medical Association in 1850. Dr. J. P. Barnes reported from Mobile that there were in 1852 forty regular practitioners in Mobile and nine quacks. At this same date there were one hundred and seventy members of the Association with twenty-six from Mobile, twenty-eight from Montgomery, eleven from Selma, and the rest scattered throughout the State. About this time there were twelve hundred physicians in Alabama. It was estimated that two hundred and fifty students left the State annually to seek medical instruction in Georgia, Charleston, Nashville, Memphis and Tulane. In 1851 there were thirteen Alabama graduates at Charleston; while at Tulane, out of a class of thirty-seven, fourteen were from our State. It was estimated that medical students carried annually two hundred thousand dollars out of Alabama. To these financial reasons for the need of a medical college were added the arguments as to the existence of diseases prevalent in our especial environment—malaria, the so-called bilious fever and conges-

tive fever, a particular type of pneumonia, the characteristics of disease in the Negro, and the dreaded yellow fever, the combating of which had especially developed the skill and resourcefulness of our Mobile physicians. A bill for the establishment of a medical school was referred to a committee on education in 1855, and this committee reported that the Mobile County Medical Society offered to raise forty thousand dollars if the Legislature would appropriate fifty thousand. The people of Mobile subscribed more than fifty thousand dollars and finally the bill was passed chartering the Medical College at Mobile and creating it a part of the State University.

Willis G. Clarke in his "Education in Alabama" writes that "the college owed its origin to the devotion to the science of medicine of a coterie of able and accomplished physicians then living in Mobile; and the fact that the enterprise was fathered by these men secured for it the moral and financial support of the people of Mobile and of the entire State. When the architectural design had been selected and the work of construction well advanced, Dr. Nott went to Europe to purchase equipment. Dr. Josiah Clarke Nott was born in Columbia, S. C., in 1804 and after graduating in Philadelphia at the age of twenty-three he returned to his native town where he practised medicine for eight years before coming to Mobile, first spending a year in Paris hospitals. In 1844 he had written a small work entitled "The Bible and the Physical History of Man," which, with a later work entitled "Types of Mankind," aroused the opposition of the orthodox. This latter work was written in collaboration with an English Egyptologist who was then living across the bay from Mobile. There is a reference to this work in Darwin's "Descent of Man." In 1848 he wrote his famous paper for the New Orleans Medical and Surgical Journal in which he said "there are many ways in which the disease (yellow fever) might be carried and communicated by insects." This theory, which antedated the proof by fifty years, was declared by Goldberger to be the first suggestion of the etiologic relationship of the mosquito to yellow fever.

In 1857, while occupying the Chair of Anatomy in the University of Louisiana, he conceived the idea of founding a medical school in Alabama and returned to Mobile to carry

it out. Mr. Willis Brewer in his History of Alabama says that "Dr. Nott was highly esteemed by all who knew him best as he united the manners and sentiments of a southern gentleman with the acquirements of a savant." Such was the man who searched the scientific centers of Europe to supply the Medical College of Alabama with a museum which, in the words of Willis Clarke, had at the time no superior and few equals. His descriptive list bears this out; and it was in a measure true even in my day despite the depredations of the Negroes when it was used as a school for freedmen from 1865 to 1868.

In 1859 the medical school opened with a hundred and eleven matriculates. Its second session opened with one hundred and twenty, but at its close the war put an end to its activities until 1868. Willis Clarke writes that Dr. Nott was ably supported in the founding of the medical college by the genial and erudite Anderson, the quiet and efficient Ross, the courteous and accomplished Ketchum and others not so widely known who nevertheless rendered valuable aid. Dr. Wm. H. Anderson was born in Virginia in 1820. A graduate of William and Mary, graduating a year later at the University of Virginia, spending a year as resident physician at the Baltimore Almshouse, and a year at Bellevue, he went to Europe for three years' study under such teachers as Velpeau, Magendie, Claude Bernard and others whose names are less familiar to us. He wrote a detailed account of the experiments of these last two which was published in a New York medical journal. He was Dean of the Medical School from the outset and not after Dr. Nott, as is stated by some historians.

From the reorganization of the medical school in 1868 to my entrance as a student some twenty years later, death wrought havoc in the ranks of the noble men who were carrying on this work with no thought of financial recompense. Dr. Gordon who performed the first cesarean operation in Alabama died in 1868; Dr. J. C. Nott, Professor of Surgery, in 1873; Dr. J. T. Gilmore, who succeeded him, in the 1880's; Dr. E. H. Fournier, Professor of Materia Medica, and Dr. E. P. Gaines, Professor of Physical Diagnosis, in 1884; Dr. Ross, Professor of Surgery, in 1885; and Dr. Anderson, Professor of Physiology, in 1887. Dr. Anderson resigned several years before his death and Dr. Ketchum

was chosen as Dean. The teaching staff of the Mobile school gave two of its most brilliant members to the highest office in the Association. I refer to the gifted Jerome Cochran, our first State Health Officer, and to his eminent successor, Dr. Wm. Sanders.

Lest anything I say might be construed as criticism, I wish to call attention to the fact that men failing to receive their degree at the medical school in Mobile were wont to have recourse to one of several places where the requirements for graduation were less strict and the guardians of the public health apparently less conscientious. We were justly proud of our membership in the Association of Southern Medical Colleges. Ours was still the old medical school because the old methods were still in vogue; principally that the entire course was covered in one year, and the two-year course was mainly a duplication with some extra clinical opportunities. The clinics in surgery and genito-urinary diseases were satisfactory; the medical clinics were conducted in the amphitheater, and there was practically no ward walking. The lectures were read mostly from transcriptions from text-books by Drs. Ketchum, Owen and Pape, respectively, in medicine, obstetrics and physical diagnosis with some demonstrations in physiology. Dr. Heustis in surgery, Dr. Scales in genito-urinary diseases, Dr. Toxey, anatomy, Dr. Jordan and, later, Dr. McDaniel, *materia medica*, Dr. Sanders in Eye and Ear, and Microscopy, and Dr. Chas. Mohr, Chemistry, gave their instruction without notes, the two latter with many practical demonstrations.

With the establishing of the three-year graded course, and the actual merging of the medical school with the University, it became more modernized and further developed; first under Dr. Ketchum and later under Dr. Goode. The clinical and laboratory work was much elaborated; and later under Dr. Bondurant, with the aid of legislative appropriations, the medical school was brought to such a state of efficiency that it successfully passed repeated rigid inspections by various national boards. But, as the entrance requirements become more stringent, thus diminishing one source of revenue in curtailing the number of admissions, while at the same time the necessities of a progressive school became more urgent and therefore entailed greater expenditures, Dr. Bondurant, seeing that the financial resources to

meet the conditions were no longer made available, resigned. Dr. T. H. Frazer made a brave and earnest effort to carry on, but increasing requirements with decreasing income made it impossible for the school to cope with the exacting demands of the inspectors; and so the college inevitably was rated class B. As there had been a mutual agreement that the school should remain in Mobile only as long as it remained a class A college, this pronouncement automatically closed its doors.

As to Alabama's heritage, it is two-fold. An undying heritage is in the example set by cultured, erudite and lofty-minded men, who strove to pass on the torch of learning to light up the lonely places of our land. "And the second is like unto it," in that this noble effort resulted in supplying the uttermost parts of our State with men who knew the healing art; and who practiced it with the high ideals derived from the emulation of their eminent teachers. The old college received many obscure young men from small settlements and sent them back home to be a power in their communities. "Yea, a very present help in time of trouble." But this is a dying heritage for there is now a dearth of doctors in the rural districts of our State. We all agree that something must be done but has not the old medical college of Mobile pointed the way?

HISTORY OF THE FOUNDING OF THE BIRMINGHAM MEDICAL COLLEGE

By
DYER F. TALLEY, M. D., F. A. C. S.
Birmingham, Ala.

The Birmingham Medical College was organized and chartered in 1894 and its first session was that of 1894-95. The attendance for that session was thirty-two. Among the matriculates were first, second and third-year students. There was one graduate in 1895. This graduate, Dr. William Clark, was a prominent member of the profession in North Alabama before his death a few years since. For the next session, 1895-96, thirty-seven students were enrolled, and at the commencement of 1896 there were two graduates. There was a steady increase in attendance and in the number graduating each session.

The session of 1909-10 was the most successful in the history of the institution up

to that time. The enrollment was 221. There were twenty-four members of the senior class, all of whom did excellent work. Ten states were represented in the graduating class.

The faculty of the Birmingham Medical College was wise in its plans in founding this institution. The first faculty had among its members Drs. W. H. Johnston, J. H. McCarty, B. L. Wyman, J. D. S. Davis, W. E. B. Davis, B. G. Copeland, R. M. Cunningham, L. G. Woodson, J. C. LeGrand and others. These men, recognizing Birmingham as a great center, decided to organize and establish a medical school in their city. While there were many of the profession of the State who doubted the wisdom of such an undertaking, the growth of Birmingham, both as an industrial and medical center, showed the wisdom of these men. It was a great undertaking, but the men established a high curriculum, and they did from year to year graduate young men who took high rank in the medical profession.

Dr. W. H. Johnston was the dean, and he served in this capacity until his death in 1898, when Dr. B. L. Wyman was elected by unanimous vote.

In 1902 the Birmingham Medical College was reorganized. It was at that time occupying a rented building on Twenty-first Street between Second and Third Avenues. With the growth of the school, these quarters became inadequate for teaching purposes, and after the reorganization the faculty determined to purchase a lot next to the Hillman Hospital, and to erect a modern medical college building adjoining that institution, which was in course of erection. The session of 1903-04 opened in the new college building, which had been constructed according to the most modern plans for the teaching of medicine and surgery. Ample laboratories were provided and equipped, and arrangements were perfected whereby the college faculty had entire charge of, and the students had access to, the medical and surgical clinics of the Hillman Hospital for the entire session. An out-door clinic which grew from year to year was also inaugurated by the college faculty. Instruction was given every day at the hospital.

By legislative act the Birmingham Medical College was given the right to use all unclaimed cadavers in Jefferson County for the dissecting room.

The curriculum approved by the Council on Medical Education of the American Medical Association was adopted by the faculty of the college at its annual meeting in April, 1909. The laboratories were enlarged during the summer, and additional equipment was purchased. It was the purpose of the faculty not only to continue the high grade of work done in all departments but to increase the amount of time and work in the elementary branches. The faculty believed that in giving the curriculum as approved by the American Medical Association it was rendering a distinct service to the medical profession of the entire South.

With the high standard that had been maintained by the institution since its organization, and the high grade of work that was done during the past, the faculty felt justified in saying that the future of the Birmingham Medical College was co-equal with that of the great city in which it was located, and that Alabama and the South and the friends of medical education would recognize this institution as having an unexcelled location for growth and development, and that it was doing work of the very highest order.

In 1910 the Council on Medical Education decided that it would be better for medical education if all proprietary medical schools were discontinued. There was also, about this time, a movement to increase, very materially, the requirements for graduation in medicine. Consequently this Council advised that the Birmingham Medical College be turned over to and made a part of the University of Alabama. The faculty of the Birmingham Medical College was anxious to have the college continue as a class A school, so it proceeded to take such steps as were necessary to make this transfer.

The institution was conveyed to a Board of Trustees composed of Messrs. Sidney J. Bowie, James Weatherly, Robert Jemison and Culpepper Exum. This conveyance included all the physical properties as well as all the rights and privileges of the college that had been granted by the Legislature and County of Jefferson. This conveyance to the Board of Trustees was made with the understanding that it should in turn convey all the properties of the college to the University of Alabama without any monetary consideration, provided that the University of Alabama would continue to conduct a

class A medical school in Birmingham. It was understood and agreed that should the University fail to conduct such a school that the property would revert to the original owners.

After this transfer was made to the University of Alabama, a building known as the University Free Dispensary was erected, with popular subscription, on a lot adjoining the medical college and owned by the college.

Dr. B. L. Wyman resigned as dean and a member of the faculty in 1912 and Dr. Lewis C. Morris was elected dean and remained in this position until the undergraduate school closed in 1915. After this Dr. J. S. McLester was elected dean of the Graduate School of Medicine.

In addition to the above mentioned members of the original faculty were then and later the following doctors: W. H. Sholl. Thomas D. Parke, J. D. Heacock, Charles E. Dowman, A. F. Toole, J. D. Dowling, W. H. Wilder and Mack Rogers. The members of the executive faculty at the time the undergraduate school closed were the following doctors: J. D. S. Davis, James S. McLester, Lewis C. Morris, E. P. Hogan, F. A. Lupton, W. P. McAdory, J. Ross Snyder, H. S. Ward, W. G. Harrison, K. W. Constantine, Walter F. Scott, George S. Graham, Clyde Brooks. Samuel W. Welch and D. F. Talley. In addition to the above there were a number of prominent Birmingham doctors on the general faculty as associates in the different departments.

In 1910 the Carnegie Foundation for the Advancement of Teaching made a report which advocated Birmingham as the feasible and proper location for the medical department of the University of Alabama.

During the twenty-one years' operation of the Birmingham Medical College it graduated 351 students, and it has among its alumni some of the most prominent members of the medical profession in Alabama and other states. About 1924, and after the University of Alabama had failed to conduct a medical school in Birmingham for a number of years, the property of the college was transferred back to the faculty, which in turn conveyed it, for a monetary consideration, to the County of Jefferson to be used in connection with the Hillman Hospital.

THE NEED FOR A FOUR-YEAR MEDICAL SCHOOL IN ALABAMA

By
STUART GRAVES, M. D.*
University, Alabama

My part in this program is to try to present to you within the limit of fifteen minutes the need for a four-year medical school in Alabama. To do so within that time it will be necessary to eliminate any introduction and to confine my remarks strictly to a very brief consideration of a few points.

I must take this occasion, however, to express our thanks to President Harris for his kindly interest in arranging this program; to the Alumni Committee of Doctors Partlow, Caldwell, Gordon and Collier for its effective work since the last meeting of this Association; to the Alumni Association of the Medical Department of the University of Alabama for its continued and increasingly effective support of the project; to the State Board of Censors for its repeated resolutions in favor of a four-year school, especially the strong resolutions adopted on the 21st of last August; to the editors of the Alabama State Medical Journal for publishing those resolutions last November with a strong supporting editorial; to the sixty-two County Medical Societies which have endorsed the resolutions adopted by the State Board of Censors and which have pledged their support; to various newspapers which have commented favorably from time to time; and finally to many physicians and laymen, too numerous to mention by name on this occasion, who have by word and deed given evidence of their sincere and sympathetic support until the objective is realized.

Frankly, there have been times during the last ten years when conditions would have seemed discouraging had not our faith been strong in the merit of our cause and in the ultimate support of the profession and the public. There have been a few doctors who have honestly doubted the need of a four-year school, but we have received from these same doctors one by one letters or verbal expressions of their conversion to the need and of their pledges of aid. We are convinced that practically all doctors now feel that a four-year school should be established as

*Dean, School of Medicine of the University of Alabama.

soon as the resources of the State will warrant the necessary appropriations.

The whole question resolves itself into a matter of money, and the best discussion of that problem has been in the words of the Chairman of our Alumni Committee, Doctor Partlow, who said one day to a committee that it would seem as if the State of Alabama, which is now spending every year many millions for roads and many millions for education, might spend annually a fraction of one million, perhaps a third of a million, to give in complete form to Alabama students the one essential training for public service which it now fails to give. Agriculture, business and commerce, chemistry and engineering in various forms, law, music, nursing, pedagogy, pharmacy—in all these and other professions complete courses leading to degrees are offered within the State—but in medicine more than 200 Alabama boys and girls must still every year leave the State to graduate, and they carry out annually probably enough money to support a complete four-year medical school within the State. Unfortunately, because they are obliged to go away, all too many of them never return. It is time this loss of much of our best blood and brain to other states is stopped.

Time does not permit discussion of the many arguments in favor of a four-year medical school. Various publications from time to time during the last decade may be reviewed by those who would be more fully informed. Ten years ago "University Plans for Medical Education in Alabama" were presented before this Association in Mobile and published in the 1929 Transactions.¹ "The Relation of Public Welfare and Industrial Development to Public Health and Medical Education in Alabama" was discussed before the Jefferson County Medical Society in 1938 and published in the State Medical Journal last May.² In the same issue,^{3, 4} articles by Dr. R. S. Hill and Dr. J. N.

Baker included convincing arguments for a four-year school. Before more than 100 doctors at a joint meeting of the Northwestern and Southwestern Divisions of the Association in Tuscaloosa last December, President Harris, Dr. James S. McLester, Dr. Merle Smith, Dr. W. D. Partlow and others endorsed the project, and a letter from President Foster pledged the support of the State University whenever the doctors and the State authorities succeeded in providing necessary funds. Anyone who wishes a report of that meeting may obtain it in full by dropping me a postal card.

In closing, let me take the remaining minutes to emphasize a few points.

First. Alabama has fewer doctors in ratio to population than any state in the Union. This statement is based on statistics of the United States Bureau of the Census and the directory of the American Medical Association. In the cities, perhaps, you may feel there are doctors enough, but please do not forget a county like Lowndes which has six practitioners for a population approximating 28,000, or a county like Pickens with a population almost as large in which the youngest practitioner today was graduated in medicine twenty-four years ago. There are many counties like them. It is true, of course, that the distribution of doctors is dependent in part upon local economic conditions, and yet one cannot help but believe that counties so badly needing medical service would be better served if the ratio of doctors to population in Alabama at large were not something less than half the national average. Certainly the rural communities would be better served if our own country boys, often our own doctors' sons, had opportunity to gain a complete medical education in their own State at moderate cost rather than being forced to go away at much greater expense where opportunities toward graduation and during interne years too often keep so many of them from returning home. How can we build up our own State if we make no effort to stop its being constantly drained of much of its best young manhood?

Last year 200 Alabama students were enrolled in medical schools outside the State, according to American Medical Association reports. If the Alabama cash they were forced to carry out of the State to spend elsewhere were available annually for the maintenance of a four-year school at home, in ad-

1. Graves, Stuart: University Plans for Medical Education in Alabama, Trans. M. A. S. A. 1929, 277.

2. Graves, Stuart: The Relation of Public Welfare and Industrial Development to Public Health and Medical Education in Alabama, J. M. A. Alabama, May 1938.

3. Hill, R. S.: Some Thoughts on the Medical Profession, J. M. A. Alabama, May 1938.

4. Baker, J. N.: What Significance Has Alabama's Declining Medical Population? J. M. A. Alabama, May 1938.

dition to the very modest support we now enjoy for the two-year school, we would have nearly enough to complete the medical education of these young people in a high grade medical school which would be a credit to Alabama.

Second. For ten years it has been our policy to give preference in admissions to qualified applicants from this State. I can promise you that the same policy will be continued. As the reputation of our school has improved, more and more of the better Alabama premedical students have sought admission to our school. The proportion of Alabama students has steadily increased and I am happy to be able to inform you that our freshman class of fifty-two men at this writing has only six non-residents from colleges outside the State and two of these come from our neighboring state of Florida. There is not one in our freshman class from the whole northeastern section of the United States. This simple statement of fact answers any criticism or any apprehension that state money will be lost in educating "outsiders." It should not be forgotten, however, that other states have for a generation been educating Alabama doctors at greater expense to them and to the students than the same students could have been educated at home—and too often those states have kept too many of the best Alabama students.

Third. May I submit briefly, as evidence of the quality of work done in your two-year school of medicine under University supervision, the record made by our medical students. Just 100 per cent of those who have passed the examinations for the first two years of medicine at the University during the last decade have been transferred to junior standing in thirty-four approved four-year schools, ranging from Harvard, Johns Hopkins and Pennsylvania to California; and from McGill to Tulane. Of these 100 per cent transfers, less than half of one per cent have failed of graduation in these thirty-four four-year schools. Our students are welcomed by the best schools everywhere because they have been found well prepared in the basic medical sciences and the introductory clinical courses and have made good in many of the best four-year schools in the country. You may be assured that, if and when a four-year school of medicine is established in Alabama, the teaching of clinical medicine will be maintained on

the same high plane as we have maintained for the teaching of the basic medical sciences.

Fourth. The late Dr. Samuel Wallace Welch strongly favored the development of a four-year medical school in Alabama as an aid to the work of the State Board of Health. Dr. Welch helped me write and thoroughly approved the "University Plans for Medical Education in Alabama" which are on record in the 1929 Transactions. Those plans were approved by the State Association at that session on motion of Dr. R. S. Hill. To bring that matter up to date, may I read you a letter which I wrote Dr. Douglas L. Cannon on November 16th last, after reading the very encouraging full page editorial in the November issue of the State Medical Journal. That editorial ended with this paragraph:

"Such worthy endeavors as those embraced within the resolutions should command the unqualified support of every one who appreciates that public health and the training of doctors, nurses and public health workers are fundamental to the progress and welfare of all citizens of Alabama."

My letter to the Editor of the Journal, thanking him for the encouraging editorial, states the policy of the University in relation to the State Board of Health in terms so clear that they preclude any possible apprehension over the development of a four-year medical school at the expense of the State Board of Health.

November 16, 1938.

Dr. Douglas L. Cannon, Editor,
519 Dexter Avenue,
Montgomery, Alabama.

Dear Doctor Cannon:

It certainly is encouraging to read the fine editorial in the November Journal. Likewise, it is most encouraging that the strong sentiment for a four-year school seems to be growing all over the State.

In thanking you for this fine editorial, I want to record with you very definitely the policy of the University, that the medical school shall not be developed at the expense or to the detriment of the State Board of Health in any way. On the contrary, in whatever way we can, we want to elaborate to the extent of our ability the policy we have tried to follow in giving the little course on public health in our second-year class, to the end that every student who goes through this school may come out a militant supporter of organized public health wherever he practices.

The more doctors we can turn out who will remain in Alabama, the stronger the support will be for the State Board of Health in future years. The sooner we can get a four-year school, the sooner

a much larger proportion of our future students will remain here for practice and for the support of the State Board of Health.

With kind regards, I am

Very sincerely yours,
Stuart Graves, Dean.

The Medical Association of the State of Alabama by law constitutes the State Board of Health. Water will not rise higher than its source. Public health support will not be stronger in Alabama than the medical profession wills. It is our practice, policy and purpose to teach our medical students to support the State Board of Health. This teaching is actually done almost completely by the staff of the Board and the Jefferson and Tuscaloosa County Boards of Health.

Fifth. The leaders of medical thought in Alabama seem to feel that the time is ripe to move for a four-year medical school. Dr. Welch was instrumental in formulating our plans and was a member of the advisory council of our school until his death. Not only as Alabama State Health Officer for many years, but as a member of the Council on Medical Education of the American Medical Association, he spoke with authority and wisdom. So did the late Dr. Richard Pearce, Director of the Division of Medical Sciences of the Rockefeller Foundation, who read and approved the "University Plans for Medical Education in Alabama," before they were presented in 1929 to the State Medical Association.

"The future of medicine," said Dr. Pearce, "lies in the State Universities. Alabama is well situated geographically for such a medical school. Your plans are sound. Every state which can afford it should have its own school. It is the biggest factor in solving the problem of medical care in rural districts."

Dr. Seale Harris, President of the Medical Association of the State of Alabama, declared last spring at his induction into office that the development of a four-year school in this State would be one of his three main objectives.

Many other leaders might be quoted. Dr. J. N. Baker in the May Journal pointed out the great dearth of doctors in Alabama, especially in the rural districts. Dr. L. L. and Dr. R. S. Hill, both devoted to Alabama medicine, both former presidents of the State Association, have heartily endorsed the movement for a four-year school. So

has Dr. James S. McLester, former President of the State Association, late a member of the Council on Medical Education of the American Medical Association and just past-president of the American Medical Association. So have all the members of the present State Board of Censors in adopting their resolutions last August, and so now have the great majority of the County Medical Societies. So have the medical alumni of the fine old Mobile School, in electing three of their outstanding alumni to work for a four-year school. Surely the mature judgment of such state leaders must be wise!

Sixth. Graduate Instruction and Rural Clinics: This is a big subject and must be covered very briefly. Our plans were projected in the 1929 Transactions. They were almost prophetic, in the light of subsequent developments. I hope you will read that section particularly, on pages 5 and 6 of the reprints on "University Plans for Medical Education in Alabama."

A comprehensive state plan of medical education may be likened to a great tree. The trunk is a small, sound, high grade four-year undergraduate school. The great top must cover the entire State. This top represents a state-wide system of graduate instruction and rural extension clinics, administered also by the Board of Trustees of the University, including graduate short courses in medical centers and extension clinics in rural sections conducted by the best men of the whole State. Such a system also involves senior undergraduate assignments for preceptorial training under the best of those recognized practitioners of the State who may be willing to do their part in such a system. This conception of undergraduate and graduate medical education is broad enough to include the best medical men in all parts of the State. In the very best and broadest sense it will be a *State School of Medicine*.

Seventh. Shall medicine be only for the rich? I cannot believe that very many men would feel that medical education should be denied those poor boys who have the brains and the courage to help earn their own education, nor that the State should not afford every opportunity to help them help themselves. If you feel interested in this particular question and can spend two or three hours at the school some day, I can give you case histories of scores of the finest young

men and women of this generation in Alabama, many of them sons of doctors here, who have been helped to help themselves and who have gone on to make creditable records in schools like Harvard, Cornell, Chicago, Washington University, California and Northwestern.

The tragedy of it all is that so many of these fine young people get away from Alabama and are naturally attracted by the advantages which come to the better students in their last school years and their years of internship, and are so kept from returning home when, if we could have completed their education here, they would have been afforded similar opportunities in their own State and then would have remained here to serve their State. I believe it was Thomas Jefferson who expressed the philosophy that America should afford "a democracy of opportunity which would lead to an aristocracy of achievement." Any day that the citizens of any state in this last stronghold of democracy do not subscribe to and support that policy the danger signals are up. Any day that the medical profession attempts to deny a poor boy an opportunity to fit himself to be a doctor that day the medical profession may expect to have the great mass of people take it over and socialize it for the benefit of the masses.

Finally. No great crusade was ever carried to success when the soldiers quarreled over plans. Wise leaders must be trusted. The leaders by law, if the proposed medical school is to be an integral part of the State University, must be the Board of Trustees of the University who represent all sections of Alabama. You may be sure they will act deliberately, impartially and wisely, only after careful study and after consultation with the best of the medical profession of the State and no doubt after conferring also with national authorities in medical education, such as the Council on Medical Education of the American Medical Association and the Association of American Medical Colleges.

Let us, then, all pull together, forgetting controversial details, and unite harmoniously in pressing forward toward the main objective, which is big enough and broad enough to serve the whole State and to offer opportunity for qualified doctors in *all* parts of the State who may desire to participate.

Tonight's meeting is the climax in this

movement so far. The next step is to organize in such a way that the Governor and Legislature of Alabama, in response to awakened public demand for better medical service, will respond with the necessary funds. When and how the authorities will so respond depends very largely upon the attitude and action of the medical profession of this State, in whom, I believe, the public of Alabama still has the greatest confidence.

THE UNIVERSITY OF ALABAMA AND MEDICAL EDUCATION

By

RICHARD C. FOSTER, A.B., L.L.B., LL.D.*
University, Alabama

I deeply appreciate the privilege which you have given me of speaking to you to this meeting, and I desire to express at the outset the appreciation which we at the University of Alabama feel for your gracious gesture in making the topic of this public meeting the need of a four-year medical school in Alabama.

The University feels a keen responsibility for carrying forward the work of the medical schools which were our predecessors. The contributions of the Alabama College of Medicine at Mobile and of the Birmingham Medical College must not be minimized or forgotten. It was a great misfortune for this State, as your President said yesterday, when the work of these colleges and the old medical department of the University of Alabama had to be curtailed for lack of adequate financial support, ultimately resulting in the offering of only two years of medicine. Tonight, twenty years later, we seem to be making the first headway toward the recovery of this loss, in our efforts to restore complete medical education within the State and connected with the University of Alabama. All of us owe a debt of gratitude to your Association and its President and to Doctor Partlow and his committee composed of Doctor Gordon, Doctor Caldwell, and Doctor Collier.

If the four years of medicine and the medical degree are to be offered in Alabama they must be of a high standard of quality. We approve and applaud the constant stand of

*President of the University of Alabama.

this Association for quality rather than numbers in medical education. If it becomes the University's opportunity to give four years of medicine, the school will be maintained on the same high plane at which Dean Graves and his predecessors have brought the present two-year school; that school will prove a firm foundation for the building of the complete college of medical instruction.

Nothing is more important to social and economic welfare than health; nothing is more important to health than doctors, public health workers and nurses.

We spend hundreds of thousands of dollars annually on other ways of improving the social and economic welfare of various groups—why not spend the necessary amount for the training of doctors and for health. Why not give to Alabama's youth an opportunity for complete education in this ancient and honored profession—the only one of the older professions in which it is not possible for our youth to obtain a degree in this State.

If the medical profession and the lay public feel that the time is ripe for a four-year medical school and complete medical education, and if the State shall provide the needed financial support for a small high-grade school, the University of Alabama is not only ready to undertake the responsibility for such a school, but it is anxious to do so, not with any desire for its aggrandizement, but with a sincere purpose to be of service to the whole state of Alabama.

POSTGRADUATE MEDICAL INSTRUCTION IN ALABAMA

By

J. S. McLESTER, M. D.
Birmingham, Ala.

The physician who above all others is entitled to admiration and respect is the man whose practice is general; not the specialist who enjoys relatively liberal remuneration and, if he so wishes, can find time for reading and research; not the college professor who occupies a secure position with an assured income and who has never really played the game. It is the man who has the courage to play the game in its hardest and most hazardous form, the man who practices medicine in the homes, at the bedside of the patient. His work is a trying one both to body and soul. It is believed today that the gen-

eral practitioner should be the central figure in the practice of medicine. He it is, if the American Medical Association is permitted to have its way, who will in the future receive greatest consideration from the American people. With him rests the future of American Medicine.

This man's obligations to his patients are so exacting, and in meeting these he is so faithful, that he has little time for travel or even for reading and if he is to keep abreast of the advances of medicine the newer things must be brought to him. This is the obligation of the State.

The method by which this can best be accomplished is yet to be determined. I think it is generally agreed that the school which devotes itself solely to postgraduate teaching has not as far reaching an influence as has the regular four-year medical school which lends a part of its energies and resources to extension work. With the guidance of the State Health Department and the help of an out-of-state educational institution, we are making an excellent beginning here in Alabama. Soon it is hoped we shall have a four-year medical school of our own which can carry this work forward. Research in the laboratories of the school and in the wards of the hospital is of the utmost importance, for without it progress in the medical sciences would stop, but a major service to be expected of the medical school of the future is to carry the newer things of medicine to the man upon whose mind and soul rests the burden of caring for the health of the American people.

LEGISLATION PROVIDING FOR A FOUR-YEAR MEDICAL SCHOOL

By

W. D. PARTLOW, M. D.
Tuscaloosa, Ala.

I have been requested to consume about five minutes in discussing the proposed four-year medical school as a part of the University of Alabama from a standpoint of legislation. What I shall have to say is very largely a report for a committee of alumni selected one year ago to promote the expansion of our present two-year medical school to the status of a four-year medical school.

This committee conceived as a proper course of procedure, first, to ascertain the feeling of the medical profession in Alabama

toward this proposition, and it is now very much gratified in being able to report an almost unanimous sentiment of the medical profession in Alabama in favor of a four-year medical school. The committee wrote a circular letter to the president and secretary of every County Medical Society in the State, outlining the proposition and enclosing a suggested, tentative draft of suitable resolutions to be adopted by each County Medical Society in favor of a four-year medical school. The reaction and response have been very gratifying to the committee. It used a map of the state of Alabama by counties, painting red each county favorably heard from, and up to the present time almost the entire map of Alabama is red, with the exception of three or four counties, some of which have explained that no meeting has yet been held since the receipt of the committee's communication. A few of the counties have made slight alterations in the form of resolutions suggested and have added certain important minor considerations incorporated in the resolutions.

The committee feels that from commitments of County Medical Societies that the profession will be largely behind any proposed legislation asking for state appropriation to establish and maintain a four-year medical school. A little later the committee hopes to submit to the County Medical Societies such proposed bill and ask their cooperation and support with the members of the Legislature from the respective counties. Practically all replies have assured the committee of such cooperation and support. The committee feels that the important arguments in favor of such appropriation and justifying the claims of the committee in this regard are:

(1). The fact that the youth of Alabama who aspire to the study of medicine have not an equal chance with those ambitious to take other professional courses, that they are discriminated against and that such ambitious youth of the State are forced to go out of Alabama to obtain professional education in medicine.

(2). That the State, having no facilities for medical education, militates against the young men or the young women of limited means, making it difficult or impossible for many of such to obtain education and training in this profession, thus not only interfering with the life program of deserving indi-

viduals, but of depriving the people of Alabama of the service of such potential material for medicine.

(3). In addition to operating against the equal advantage of the youth of the State, it results in a handicap and disadvantage to the State and its citizens by the fact that many who go to distant states for medical education form their connections and make their contacts in the neighborhood of such medical schools, resulting in their never returning to serve the people, institutions and public health agencies of their native State, thus depriving Alabama and its citizens of a highly needed service.

(4). We believe that this is the greatest defense against arguments for socialized medicine. Such arguments are often based upon inadequate numbers of physicians available to serve the people. If Alabama provides training of its youth for the medical profession, this will certainly result in greater numbers of young doctors being added to the profession to serve Alabama.

(5). We do not believe it is an unreasonable call upon the State, spending its many millions of public funds for public education, to ask that a part, possibly a third of one of those many millions expended each year, be given to medical education for the benefit of that segment of Alabama youth now discriminated against, both from the standpoint of individual interest and ambition of such native youth as well as disadvantage to the State and its public agencies and medical interest of its citizens.

For all of these reasons the committee hopes to go forward in promoting the establishment of a four-year medical school which it feels is fully justified and will become a realized fact under the continued cooperation of the medical profession of the State. Let us move forward with the one goal in view, dismissing, for the present, collateral or controversial questions, all of which detail can be definitely worked out with the Board of Trustees of the University of Alabama as such questions may arise.

Peptic Ulcer—Immediately following a gross gastric hemorrhage, I believe the patient should be quieted with opiates, his stomach should be kept empty and necessary fluids given rectally or parenterally. The period of starvation will be continued for two or three days, depending on the indications of arrest of the hemorrhage. Then Sippy treatment is instituted.—*Davis, Virginia M. Monthly, June '39.*

THE JOURNAL

of the

Medical Association of the State of Alabama

Editor-in-Chief

FRED W. WILKERSON Montgomery

Associate Editors

M. Y. DABNEY Birmingham

W. D. PARTLOW Tuscaloosa

J. N. BAKER Montgomery

DOUGLAS L. CANNON Montgomery

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

Office of Publication

519 Dexter Avenue.....Montgomery, Ala.

Subscription Price.....\$3.00 Per Year

July 1939

POSTGRADUATE EDUCATION IN ALABAMA

Reference was made in the March and April 1939 issues of the Journal to the Association's plans for medical extension teaching at various points over the state. The first geographic circuit has been covered; and organization of the second has been completed, the centers included therein being Roanoke, Anniston, Talladega, Alexander City and Opelika. The schedule is as follows:

July 10, 17, 24, 31 and August 7 and 14 at Roanoke; place of meeting being the Knight Sanatorium at 7:30 P. M.

July 11, 18, 25 and August 1, 8 and 15—Anniston, Garner Hospital, 7:30 P. M.

July 12, 19, 26 and August 2, 9 and 16—Talladega, Citizens Hospital, 7:30 P. M.

July 13, 20, 27 and August 3, 10 and 17—Alexander City, Russell Hospital, 7:30 P. M.

July 14, 21, 28 and August 4, 11 and 18—Opelika, Lee County Health Department, 7:30 P. M.

According to all reports, the course offered is being received heartily. Attendance during the first circuit, with centers at Tuscaloosa, Demopolis, Selma, Clanton and Birmingham approximated 170, considered excellent for a beginning. No doubt, as the extension teaching continues, more and more physicians will avail themselves of the opportunity to receive postgraduate instruction from the lecturers, Dr. V. P. Sydenstricker of the School of Medicine, Univer-

sity of Georgia; and Dr. J. L. Wilson of Tulane.

APPENDICITIS

Fitz,¹ of Boston, has recently published a discussion of appendicitis and has given a brief but most interesting history of this ailment, beginning with the publication on June 18, 1886 of the first American article dealing with it. He says in part: "In the early days, when to take out an appendix was something of an adventure, but few cases were operated on and their mortality was high. Little by little the surgeons grew familiar with the disease, operated earlier and with increasing temerity, and thus succeeded in reducing to a very low figure the operative mortality in any large group of cases."

"During these years of improving surgical technic, however, a peculiar phenomenon has taken place. The total number of deaths from appendicitis has steadily increased. . . ."

"The surgeons, and with much to be said on their side, blame two factors as chiefly responsible for the gravity of appendicitis. They claim that too often the disease is not recognized with sufficient promptness and that all too often cases before operation are mistreated with laxatives or cathartics. The experience of the Peter Bent Brigham Hospital bears out these claims. Of 65 fatal cases of appendicitis but 11 per cent were operated on within 24 hours of the onset of acute abdominal pain and but 37 per cent within the first 48 hours. No case was given the benefit of surgery within the first 12 hours. On the other hand, in 100 cases which recovered, 25 per cent were operated on within 24 hours of the onset of acute abdominal pain, and 50 per cent within the first 48 hours; 8 per cent received the benefit of surgery within the first 12 hours of the onset of symptoms. Evidently it is well still to be reminded that, if the question of operative treatment arises, such treatment must be applied early to be effectual.

"The cathartic situation is equally striking. In 65 fatal cases, 74 per cent had taken some sort of cathartic before entering the hospital, while in 100 cases that recovered

1. Fitz, Reginald: The Challenge of Appendicitis, *Ann. of Int. Medicine*, 12: 1442 (March) 1939.

only 51 per cent had taken a laxative. Of the fatal cases, 31 per cent had utilized multiple laxatives like salts, enemas, and castor oil, combined and often repeated, whereas in the recovery group only 13 per cent had employed such drastic treatment. Surely in the early management of appendicitis to keep the bowels quiet should still be the first and last thought of the physician."

Fitz further tells us that "there are at least three logical lines of attack on a public health problem of this nature. The first is in our medical schools. Appendicitis should be taught as a medical disease. More stress should be laid by teachers of medicine on the fact that it is the family doctor who almost invariably is called on to make the diagnosis of appendicitis and to instigate treatment. Men going into practice must be taught more of the life history of appendicitis by the internist, of its diagnosis, of its initial medical treatment, of its dangers . . ."

"Secondly, local medical societies must maintain a constant interest in appendicitis. Most doctors learn by repetition. The story of appendicitis must be repeated over and over. Apparently it cannot be too strongly emphasized that appendicitis as a rule is an easy disease to recognize, that it begins with abdominal pain and usually with very slight fever, that almost any acute attack of painful indigestion is likely to be appendicitis, that stomach aches must always be taken seriously and not be treated over the telephone, and that the proper time to remove the acutely inflamed appendix is as early as possible after the diagnosis is established.

"Thirdly, and perhaps nowadays this is the most important line of attack, a campaign of popular education must be instituted. The public at large appears eager to learn about medical matters and willingly will read or listen to sensible advice. In many people's minds there still is imbued implicit faith in the curative value of 'cleaning out the system' in the presence of any indigestion . . . No doubt, too, in addition to tradition, the engaging advertisements that appear in magazines or on the air concerning laxatives and their uses are also a factor in their popularity."

The name Fitz is indeed one to conjure with, especially when appendicitis is under discussion. And the present author, a lineal descendant of the Reginald Fitz who first enlightened the world in regard to appendi-

citis, has most convincingly stated his case. Indeed there is little or nothing with which one can disagree in his excellent paper. It is to be hoped that his sound advice will be heeded and that the steps which he advocates can be put into effect. Such efforts have been made in Philadelphia and have met with some success.

In discussing the indiscriminate use of purgatives and the high-pressure advertising resorted to by their manufacturers, the author is certainly upon firm ground. It has long been increasingly evident that the excessive and ill-advised taking of laxatives is not only dangerous and even fatal in appendicitis but that it can do much to undermine health in general.

In conclusion, Fitz tells us that "appendicitis, in spite of being a fashionable and well-studied disease for more than 50 years, continues to slap our faces insultingly. It is easily recognized. Its treatment, on the whole, is satisfactory, yet it continues to kill each year an unnecessary number of people. May concerted action soon be taken by the American medical profession to meet the challenge of appendicitis and to relegate it to the rank where it belongs: A disease easily diagnosed, of no great danger, and when recognized early and submitted to proper treatment, readily amenable to cure."

Psychiatry and General Practice—The general physician will find a study of psychoanalysis to be gratifying to his professional outlook as well as to his everyday enjoyment of life. Psychoanalysis of the family should be of particular interest to the general physician. He is in an ideal position to observe a family over a period of years. The hysterical daughter, though married, still within the shadow of the domineering mother, is an example. The stern grandfather, the sacrificing mother, the neurotic daughter, the drunkard son, the well adjusted cousin—all these parade before the eyes of the family physician. He can watch the little child, as she trudges along to kindergarten, trying to adjust life's problems to the maladjustments of those at the family fireside. And the family physician, who has insight into these important relationships, is in an enviable position to suggest here and there and perhaps save a susceptible child from a miserable life of neuroticism. Knowledge of psychoanalysis can be made a useful ally of every medical man.—*Campbell, J. A. M. A., June 24, '39.*

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

EXPANDED VENEREAL DISEASE PROGRAM IN ALABAMA

By
J. N. Baker, M. D.,
State Health Officer

Alabama's campaign against the venereal diseases, which received a considerable stimulus through the funds made available last year by the LaFollette-Bulwinkle Act, is expected to show even greater expansion and enlargement as a result of the increase in funds to which this state will be entitled during the 1940 federal fiscal year which began on July 1.

In April 1938, on the eve of the expansion which the LaFollette-Bulwinkle Act made possible, there were 69 venereal disease diagnostic and treatment clinics in 46 counties. At the present time, there are 97 clinics in operation in 57 counties. It is hoped that with the cooperation and larger participation on the part of the medical profession the additional federal funds will make it possible to close this gap of 10 counties and also to expand the present clinical facilities in operation in the other 57, in order to serve more adequately the needs of every county and community.

It is hardly necessary to point out to the medical profession of this state the seriousness of its venereal disease problem. Most of its members are familiar with that problem, at least in its doctor-patient relationship, from years of practice. It may be well, however, to call attention to a few of its state-wide aspects.

Approximately 37 per cent of Alabama's population consists of Negroes, and conservative estimates set the ratio of positive cases to the total Negro population at one to four. On the basis of that estimate, there must be approximately 272,000 cases of syphilis alone among the colored people of this state. Adding to this total, the estimated number of cases among the state's white population, we find that there must be between 415,000 and 425,000 syphilitics in Alabama at the present time.

In 1937, syphilis was directly responsible for the death of 489 Alabamians, of whom

418 were Negroes. This was more than nine times as many as died of typhoid fever, more than 81 times as many as were killed by measles, nearly 31 times as many as succumbed to scarlet fever, more than two and one-half times as many as died of whooping cough, more than five times as many as died of diphtheria, more than twice as many as fell victims to malaria, and nearly one-ninth as many as were killed by heart disease, by far the greatest single cause of death.

But, startling as they are, these figures do not tell the whole story of the syphilis toll in Alabama. For, as a result of its part in the mortality attributed to other diseases, it is believed to have been indirectly responsible for the death of 840 other persons. Thus, directly and indirectly, syphilis, the most prevalent, but by no means the only, venereal disease, killed a total of 1,329 persons in this state in a single year, an average of nearly four a day.

In spite of the impossibility of obtaining anything like complete reporting of syphilis cases, 22,405 were reported last year, or considerably more than the number of reported cases of any other single disease. Reported cases of syphilis and gonorrhea combined totaled nearly twice those of any single disease.

Surely, a form of illness of such magnitude offers a distinct challenge to the medical profession, the state's public health workers and every other agency interested in the well-being of its people.

The care of the sick is the responsibility of the physician, and this is as true of those sick with venereal disease as it is of any other type of illness. It is urgent, therefore, that all treatments administered at the 95 venereal disease clinics now in operation and at those to be established be administered by physicians only. Under no circumstances should this strictly medical duty be performed by a nurse, a sanitation officer or anyone else not having had medical training. Technical skill of a high order and a comprehensive understanding of the medical aspects of the disease under treatment are demanded. In the hands of the un-

skilled, frequent infiltration of neoparsphenamine into the tissue and other mishaps are all but inevitable. Hence, it is essential that county medical societies choose as venereal disease clinicians those of their members who are willing, competent and skillful in the treatment of this type of disease.

Appreciating the importance of this program and the need for a high class of medical service in these clinics, the State Board of Censors, sitting as a State Committee of Public Health, adopted the following resolutions at its meeting in Montgomery on June 16:

WHEREAS, An expanded program for the control of the venereal diseases throughout the state has been made possible by federal grants-in-aid to states to be used specifically for this purpose; and

WHEREAS, Upon the State Health Department has been placed the responsibility for the judicious and wise expenditure of such funds; and

WHEREAS, The Medical Association of the State of Alabama, speaking through its State Board of Censors, as a State Committee of Public Health, has likewise a responsibility in this particular problem, as it has in all other health problems affecting the state; and

WHEREAS, Because of the magnitude and scope of any state-wide program looking to the control of the venereal diseases, this Board recognizes the need for the fullest cooperation, aid and counsel from the practicing profession; and

WHEREAS, The proper control of these diseases depends upon adequate, continued treatment; and

WHEREAS, The treatment of the sick individual is the province of the practicing physician; and

WHEREAS, The modern techniques employed in the treatment of the venereal diseases require a familiarity with such techniques as well as a knowledge of the diseases themselves; therefore be it

Resolved, That it is the sense of this Board that such cooperation on the part of the medical profession should be freely extended and that the official health agencies, state and local, charged with the administrative responsibilities for the conduct of the program be urged to formulate plans and machinery for as full utilization as possible of such numbers of the local medical profession, as are willing and competent to undertake the clinical management of such programs; and be it further

Resolved, That it is the sense of this Board that county medical societies and county boards of health should use their best judgment in selecting from their membership for participation in the program only those qualified to render the service; and be it further

Resolved, That it is the sense of this Board that a reasonable compensation should be paid physicians serving in the venereal disease clinics; and be it further

Resolved, That it is the sense of this Board that, because of the potential dangers of intravenous therapy, such medication should be administered only by a duly licensed physician.

In accordance with the above views of the State Board of Health and with the requirements of the United States Public Health Service, the following regulations governing clinics have been promulgated by the Division of Venereal Disease Control:

REGULATIONS GOVERNING VENEREAL DISEASE CLINICS

1. Free diagnostic and treatment facilities shall be provided by all health departments or clinics receiving funds for (a) the diagnosis and emergency treatment of all patients who apply; (b) all patients referred by a private physician either for continued treatment or for consultative advice and opinion; and (c) all patients unable to afford private medical care. The determination of the ability of patients to pay for private medical care shall be the responsibility of the state or local health department or constituted welfare agencies within these areas. Clinics collecting fees from semi-indigent patients shall not receive assistance unless such fees are used solely by the venereal disease clinic for improvement of diagnostic and therapeutic services rendered therein.

2. Free distribution of antisiphilic drugs shall be made on the request of any physician authorized by the law of this state to administer such drugs for the treatment of his patients, provided that where health departments have established the policy of furnishing drugs to the physician conditional upon receiving a morbidity report on the case of syphilis to be treated that such policy will not in any way be altered by this regulation.

3. To receive funds, diagnostic and treatment services shall be as freely available to infected residents of other states and counties as to people who reside in the governmental unit providing the services. Clinics shall be so located as to be easy of access and of maximum convenience to the population, and shall be held in well lighted and well ventilated rooms. The number of clinic sessions shall be adequate to meet local needs, and shall be held at such time as to avoid economic loss to employed patients; the physical arrangements shall be such as to insure privacy for the patients when receiving medical attention; and the minimum equipment shall include all apparatus and reagents necessary for the proper examination and treatment of patients infected with syphilis and gonorrhea. Such equipment will also include apparatus for darkfield examination, ophthalmologic examination, and lumbar punctures, unless there is immediate access to such examinations by some other means. Efficient case-finding and case-holding work shall be conducted in all clinics by qualified personnel.

4. Every patient admitted to the clinic for treatment of a venereal disease must have a physical examination.

5. Urinalysis should be made before treatment is begun and once every two months thereafter or as often as is indicated.

6. Fees for clinicians will be at the rate of \$5.00 per clinic session.

7. Fees will be paid only when the clinician is in attendance.

8. One clinic session per week may be utilized for the examination of patients.

9. All treatments are to be administered by physicians.

10. Reference of patients to the clinic shall be by physicians only.

Committee Contributions

Maternal and Infant Welfare

THE ECONOMIC STATUS OF MATERNAL CARE

We call the attention of all physicians to the "Accomplishments in Maternal and Child Health Services," in the Department of Health section of this issue of the Journal. Your Committee has previously directed the attention of the profession to the fact, recognized by all, that adequate medical care is fundamental for improvement in maternal and infant welfare; that the majority of deaths from maternal causes are preventable; that infant mortality in the first month of life can be greatly reduced; and that much of the ill health resulting from childbirth can be prevented.

Economic status plays a considerable part in the maternal care given to the more than 2,000,000 women in the United States who give birth to children each year. A study of the maternal services received by the women of Michigan, who were confined during January, February and March of 1936, shows marked deficiencies for those women who were classified as poor or on relief. Inequality of maternal care associated with inequality of economic status persisted for each type of maternal service. Three-fourths of the women of comfortable status were supervised for more than half of their pregnancy, while three-fourths of the women on relief received no medical supervision. Deficiencies for prenatal care were most marked for the rural women. Approximately half as many women in rural areas were delivered in hospitals as those in urban areas though half of the women in cities were delivered in hospitals. There were fewer women receiving postnatal examinations in rural than in urban areas.

There were 61,705 births in Alabama during 1937. Of these 21,820 were attended by persons other than physicians at time of delivery. We may safely assume that the women delivered by midwives fall into the poor or on relief groups. Based on the findings of the Michigan study this would mean that three-fourths or 16,365 of these women received no medical supervision during pregnancy. Last year 3,767 women were seen in the prenatal clinics in Alabama. All of these women attending the prenatal clinics were midwife cases or indigents referred to the clinics by physicians. The medical supervision was made possible through the splendid cooperation of the local physicians, the county health departments and local lay groups.

A certain proportion of those delivered by physicians may be classified as poor or on relief. An effort is being made in some of the counties to give the mothers of the poor, or on relief groups, medical supervision during pregnancy.

Prevention of Cancer

CANCER IN WOMEN

The American Society for the Control of Cancer announced recently that 77,069 women died of cancer in 1936 and that of the number 73,776 were over thirty-five years of age. This means that one out of every seven women of thirty-five or over will die of this disease if present rates continue. Especially high is the death rate among women between thirty-five and sixty-four years. In this group one out of every five deaths in 1936 was due to cancer. Of this group 40,629 or nearly one-half, 19,000, had cancer in the breast or uterus.

Cancer occupies fourth place in Alabama as cause of death during the age period from thirty-five to sixty-four years. It occupies first place for white women during the same age period. It is in fifth place for white men during the years thirty-five to forty-four, reaching fourth place during the next decade and third place in the period from fifty-five to sixty-four. It occupies fourth place for Negro females in the years forty-five to sixty-four, and does not rate among the first five diseases as cause of death for Negro males.

From the above facts one can readily see that cancer is one of the major problems

about which we should be concerned, especially in white women between the ages of thirty-five and sixty-four years. Three hundred and ninety out of two thousand and eleven women in 1937 died of cancer. Over 46 per cent of these women died of cancer of the breast and uterus. According to authorities on cancer, it is generally agreed that 80 per cent of these cancers are curable when the disease is diagnosed and treated in its early stages. Examinations of breasts and uterus can be made by any physician with the simplest of equipment. Inspection by palpation of breasts will reveal masses. If the physician is not equipped to carry on the diagnostic procedures, the patient should be referred to a specialist for the necessary differential diagnosis. The same is true of the examination of the uterus. Abdominal examination to determine the size,

shape and position of the uterus can be made readily in any office, as well as inspection of the cervix through the speculum. When there has been suspicious bleeding from the uterine cavity, a diagnostic curettage should be made. Any erosion of the cervix which does not heal promptly under treatment should be considered malignant until proven otherwise. Routine periodic vaginal examination done at intervals of six months in women of thirty-five and over may not necessarily prevent cancer but by this method cancer may be found early and given adequate treatment. All women should be warned that any unusual symptoms should be reported at once and not wait until the time the next examination is due. Constant vigilance will help to reduce the cancer mortality in women from thirty-five to sixty-four years of age.

DEPARTMENT OF PUBLIC HEALTH

BUREAU OF LABORATORIES

Samuel R. Damon, Ph.D., Director

SPECIMENS EXAMINED

MAY 1939

Examinations for diphtheria bacilli and Vincent's	480
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	661
Typhoid cultures (blood, feces, urine)	1,046
Examinations for malaria	2,057
Examinations for intestinal parasites	3,037
Serologic tests for syphilis (blood and spinal fluid)	20,397
Darkfield examinations	43
Examinations for gonococci	1,733
Examinations for tubercle bacilli	1,691
Examinations for Negri bodies (microscopic)	109
Water examinations (bacteriologic)	973
Milk examinations	2,332
Pneumococcus typing	59
Miscellaneous	834
Total Specimens	35,457

ORGANIZATION AND ADMINISTRATION OF LABORATORIES

In certain details of organization and administration the laboratories of the Alabama State Department of Health are unique. In this state the branch laboratory system has evolved as the best method for rendering a prompt, efficient service to aid physicians in all sections in the diagnosis of disease. All

laboratories are prepared to perform the same routine examinations in exactly the same manner. In the examination of certain infrequent specimens requiring unusual materials and equipment, for which no provision could be made with economy in all laboratories, the policy is to refer these specimens to the Montgomery laboratory where the necessary facilities are available.

A new Manual of Methods has been prepared for the guidance of all laboratories of the State Health Department in the performance of those examinations which it is the function of these laboratories to make. This manual has recently been distributed and will provide a further means of securing the uniformity of practice, standardization of technique, and comparability of results essential for successful routine operation of a state-wide service such as is rendered by the Bureau of Laboratories.

The methods described in the manual are presented in detail since it is intended that the manual shall be used as a guide for the training of new, or inexperienced, workers and as a ready reference for those more experienced, thus insuring against departure from set standards.

This manual fills a need which has existed for several years and will supplement the benefits heretofore secured only through letters and periodic inspection trips.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

ACCOMPLISHMENTS IN MATERNAL AND CHILD HEALTH SERVICE

Accomplishments in maternal and child health services under the Social Security Act are summarized by Dr. Martha Eliot in the November 1938 issue of the *Journal of Pediatrics* as follows:

"During the two years and eight months that federal funds have been available to the states for maternal and child welfare, steady progress has been made by the states and local communities in making services available to mothers and children. Many rural areas previously without such service have been reached; many groups in special need have been served; the quality of the work in most places has been improved; standards of care have been established and extension of service into new fields has taken place; a basis for administrative procedure has been established on the federal-state level and in turn between the states and local communities; and a basis for acquiring facts with regard to the need and the extent of service is being developed."

The functions of state divisions of maternal and child health from plans submitted are as follows:

1. (a) Care of expectant mothers and of children by seeking the cooperation of practicing physicians to aid in extension of facilities for continuous health supervision throughout pregnancy and during labor.

- (b) Care of infants and preschool children.

- (c) Such service to be developed through local units.

2. To be responsible for the establishment of high standards of service in the maternal and child health field.

3. To promote an educational program of the public through cooperation with agencies concerned with the health of mothers and children, such as bureaus of child welfare, departments of education and the agricultural extension service.

4. To cooperate with medical and other professional groups in providing facilities for postgraduate education in maternity care and care of children and the related fields of nutrition and dental care.

In 1934, thirty-one states had bureaus or divisions of child health and only twenty-

two of these had full-time physicians. Today all of the forty-eight states, Alaska, Hawaii and District of Columbia have divisions or bureaus of maternal and child health in the state agencies under the direction of physicians, twenty-eight of whom are trained pediatricians and thirteen obstetricians. Thirty-four full-time nutritionists have been added to the personnel of twenty-four states since 1936. The 1939 maternal and child health budgets provide for 2,716 public health nurses to help carry on the nursing program. This provides for one nurse to 11,000 persons in rural areas and for one nurse for every 3,000 persons in the cities.

During 1938 prenatal clinics or conferences were conducted in 2,718 centers in 36 states while child health conferences were conducted in 6,033 centers in 43 states.

Postgraduate courses for practicing physicians have increased. In 1936 13 states were conducting courses in cooperation with their state medical societies. Thirty-nine states plan such courses in 1939.

There can be no question of the value of services rendered to mothers and children where such services are available. However, the need is great and has not been adequately met as evidenced by the response to a question as to unfilled needs. Although \$5,640,000 of federal and state funds are being used for maternal and child welfare in the 48 states, Alaska, Hawaii and District of Columbia, the specific needs of these states aggregate \$22,000,000 annually. These needs included funds for payment of physicians' fees for delivery and other medical care, hospitalization for maternity cases, additional service of nutritionists and additional public health units.

Considerable progress has been made in Alabama since the passage of the Social Security Act. The full-time services of an obstetrician, two pediatricians, two dentists and a nutritionist have been secured. Since February 1, 1936 through December 31, 1938 sixty-two public health nurses have been added to the personnel of the state and county health departments. During 1938, prenatal clinics numbering 1,135 were held by 63 physicians in 42 centers in 17 counties, and 3,767 expectant mothers were given medical supervision. Four hundred and fifty-four mothers were given nursing care at the time of delivery.

E. F. D.

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E., Director

PROGRESS IN INSPECTION ACTIVITIES

Among the regulations of the State Board of Health revised or amended in August 1937 were those pertaining to all types of food establishments, hotels, tourist homes and ice cream plants.

The time available was too short to invoke the permit requirement of these regulations for food establishments by October 1, 1937. But during the winter and spring of 1937-38 district conferences with health and sanitation officers were held at nine points in the state, to acquaint them with details of administrative and executive procedure; and the district inspectors of the division then spent sufficient time in each county to train the inspector in the inspection work, in some cases going with him to every establishment in the county and pointing out the needs in each place.

Prior to October 1, 1938 more than forty judges of probate, and a greater number of city clerks, had agreed to withhold the issuance of 1938-39 privilege licenses until applicants therefor could present food permits from the health officer. In these counties the general conditions in eating places, meat markets, soda founts, etc., have been very much improved, although it should not be assumed that every establishment in operation holds a permit from the health officer, nor that every prerequisite to the issuance of a permit has in every instance been complied with. No class of personnel connected with this program is infallible. It is of interest, however, that approximately 15 per cent of the total number of establishments in these two-thirds of the counties of the state—most of which were border-line type, and problems to the health departments—discontinued business in preference to complying with the food regulations.

Surveys and appraisals of the status of food sanitation have been made in thirteen counties. These surveys indicate that results attained are proportionate to the energy and thoroughness of the sanitation officer, the relationship of the number of establishments under supervision to the proportion of the inspector's time available for this work, and the support given this work by the health officer and civil officials.

The food regulations provide that the State Department of Health shall serve as a clearing house for permits for the sale in other counties of foods produced in any one county, and the division issues inter-county permits to establishments which fulfill the requirements of the regulations. Through June 15, 1939, seventy-eight (78) such inter-county permits have been issued. These cover bakeries, candy factories, sandwich and cookie makers, etc.

Approximately 275 hotels are in operation in this state. Of this number, 95 have complied with the requirements of the hotel regulations and have obtained permits. The hotel regulations are being applied incidentally with the food establishment sanitation program above described. When the burden of initiating this latter program becomes lighter, the hotel work will be completed and the tourist home problem attacked.

The ice cream regulations prescribe annual permits from the State Health Officer. There are 121 known ice cream manufacturers or freezers in operation in the state, and 14 plants in adjoining states ship ice cream into the state, and 7 plants ship ice cream mix into the state. All of the 21 extra-state ice cream or mix plants comply with the regulations and hold letters of permission for the sale of their products in Alabama. Of the 121 ice cream makers in the state, 79 have received permits. This includes 75 per cent of the counter freezers, and about 55 per cent of the commercial plants.

On July 1 the counties in the three inspection districts south of the Tennessee Valley district were rearranged to form four, instead of three, districts, because of the availability of a fifth district inspector. This rearrangement will enable each district inspector to reach the reduced number of counties in his district more frequently, and to extend each phase of his work to areas and types of establishments not now reached.

C. A. A.

NEXT MEETING
OF THE ASSOCIATION
BIRMINGHAM
APRIL 16-18, 1940

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

1939

	April	May	Estimated Expectancy May
Typhoid	23	22	22
Typhus	13	31	14
Malaria	130	361	262
Smallpox	7	3	9
Measles	788	734	554
Scarlet fever	47	19	28
Whooping cough	180	220	178
Diphtheria	37	14	38
Influenza	5353	832	154
Mumps	221	192	110
Poliomyelitis	3	2	2
Encephalitis	2	2	3
Chickenpox	200	95	148
Tetanus	7	1	4
Tuberculosis	309	279	332
Pellagra	21	20	61
Meningitis	7	5	10
Pneumonia	645	218	254
Syphilis	2354	1332	268
Chancroid	5	1	8
Gonorrhea	342	220	189
Ophthalmia neonatorum	3	2	2
Trachoma	0	0	0
Tularemia	3	8	0
Undulant fever	1	4	4
Dengue	0	0	0
Amebic dysentery	0	0	0
Rabies—Human cases	0	0	0
Positive animal heads	21	26	....

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

With the venereal diseases, clinic cases were not included prior to 1936.

Medical News

(Secretaries of county medical societies and other physicians will confer a favor by sending for this section of the Journal items of news relating to society activities.)

The spring meeting of the Northwestern Division of the Association, under the vice-presidency of Dr. Merle E. Smith, was held in Cullman, June 1st. Essayists included Drs. R. A. Berry, Hughes Kennedy, Jr., and J. B. McLester, Birmingham; Dr. Lloyd Noland, Fairfield; and Dr. O. E. Marler, Carbon Hill.

* * *

The Southeastern Section of the American Congress of Physical Therapy held a one-day scientific session on Monday, July 10, 1939, at the Hotel George Washington, Jacksonville, Florida. The morning and afternoon periods were devoted to papers on diversified subjects. In the evening an informal dinner was followed by a symposium on "The Place of Physical Therapeutic Methods in Arthritis." There were papers on light therapy, radium and x-ray therapy, fever therapy, short-wave diathermy and exercise and massage.

An interesting feature of the meeting was a round-table discussion on poliomyelitis, led by Dr. C. E. Irwin of the Warm Springs Foundation.

* * *

Dr. Tom D. Spies, Associate Professor of Medicine, University of Cincinnati, addressed the annual meeting of the Association of Surgeons of the Alabama Power Company at Mitchell Dam, June 9, his subject being "Pellagra and Related Deficiency Diseases." Others who contributed to the program were Drs. Charles N. Leach, Montgomery; Dr. Lloyd Noland, Fairfield; and Dr. Hughes Kennedy, Jr., Birmingham.

* * *

The American Public Health Association has recently adopted five reports dealing with educational qualifications of public health statisticians, school health educators, public health engineers, sanitarians, and sub-professional field personnel in sanitation. These reports are distributed free of charge in the hope that they will serve a useful purpose in raising the educational standards of professional public health personnel. Copies may be secured from the Book Service, American Public Health Association, 50 W. 50th Street, New York, N. Y.

* * *

Semi-annual meeting of the Northeastern Division of the Association (Dr. R. C. Stewart, Vice-President) was held in Sylacauga, June 22nd. The program included, as essayists, Drs. J. S. McLester, Frank C. Wilson and Chalmers H. Moore, Birmingham; Dr. J. O. Finney, Gadsden; Dr. Joe Banks, Dadeville; and Dr. Sumner Davis, Talladega.

* * *

The University of Wisconsin Medical School is to conduct an institute for the consideration of the blood and blood-forming organs, September 4-6, 1939. The program will include papers and round-table discussions by European and American workers in the field of hematology.

Physicians and others who are interested are cordially invited. A detailed program may be obtained by addressing Dr. Ovid O. Meyer, Chairman of the Program Committee, University of Wisconsin Medical School, Madison, Wisconsin.

* * *

Dr. Karl F. Kesmodel, Birmingham, was

guest speaker at the 11th annual banquet of Alpha Epsilon Delta, honorary premedical fraternity, at Howard College, Birmingham, Alabama. His subject was "Cancer." Dr. Seale Harris, Sr., Birmingham, was initiated to honorary membership in the fraternity at the banquet. Other guests included Dean Stuart Graves, School of Medicine, University of Alabama; and Drs. M. Y. Dabney, Editor of the Southern Medical Journal, Earle Drennen and Travis McGahey, Birmingham.

* * *

The 18th annual scientific and clinical session of the American Congress of Physical Therapy will be held September 5, 6, 7, 8, 1939 at the Hotel Pennsylvania, New York City. Preceding these sessions the Congress will conduct an intensive instruction seminar in physical therapy for physicians and technicians—August 30, 31, September 1 and 2.

Physicians are urged to plan their vacation for these periods and bring their families to New York for the World's Fair. Ample time has been provided for during the convention to visit the fair and to enjoy the various activities of America's metropolis.

While the convention proper will have numerous special program features of scientific interest, the added attraction of the World's Fair should make it extremely worth while for every physician to come to New York and spend a most profitable vacation.

The instruction seminar should prove of unusual interest to physicians and technicians. The clinics which comprise half of the schedule make this course outstanding for its practical value. As in the past outstanding clinicians and teachers will participate. Registration is limited to 100 and is by application only. For information concerning seminar and preliminary program of convention proper, address American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago.

* * *

Written examinations for certification by the American Board of Internal Medicine will be held in various sections of the United States on the third Monday in October and the third Monday in February.

Formal application must be received by the Secretary before August 20, 1939 for the October 16, 1939 examination, and on or be-

fore January 1 for the February 19, 1940 examination.

Application forms may be obtained from Dr. William S. Middleton, Secretary-Treasurer, 1301 University Avenue, Madison, Wisconsin.

* * *

The first American Congress on Obstetrics and Gynecology is to be held in Cleveland, Ohio from September 11-15, 1939. This important meeting comes at a crucial time in American Medicine. The problems associated with human reproduction have become of paramount importance, arousing an intense interest of the public and the profession. This meeting will provide the first opportunity for all the interested groups of workers to assemble together. Doctors, nurses, hospital administrators and public health workers will meet and discuss their mutual problems and correlate their many ideas.

* * *

Dr. M. Y. Dabney, widely known Birmingham gynecologist and editor of the Southern Medical Journal, was the guest speaker at a recent meeting of the Howard College chapter of Alpha Epsilon Delta, national honorary premedical fraternity, at Birmingham, Ala. His subject was "William Harvey, Father of Physiology."

* * *

Surgical supplies and instruments, office equipment and furniture of the late Dr. S. E. Jordan of Highland Home are for sale. Information concerning the several items can be had from Mrs. Jordan.

* * *

The Cardiovascular Department of Michael Reese Hospital, Chicago, offers a full-time intensive course in electrocardiography, August 21-September 2, by Dr. Louis N. Katz, Director of Cardiovascular Research.

This is an intensive course offered to the general practitioner. There will be practice on several electrocardiographic machines and discussion of the principles of their construction and use. There will be sessions on interpretations of electrocardiograms illustrated by lantern slides and practice by the student with unknown records. Routine records taken during the time of the course will be discussed. Emphasis will be placed on chest leads and on the importance of the

electrocardiogram in coronary sclerosis and thrombosis. The mechanism and interpretation of heart irregularities will be developed.

As group and individual instruction will be given, the course is open to both the beginning and advanced student in electrocardiography. It is planned to individualize the course so that at the end of the period each student will be capable of taking and properly interpreting routine electrocardiograms. In order to accomplish this purpose the class will be limited in number. It is imperative, therefore, that reservations be made early.

The fee for the course is \$100.00. Reservations may be made upon receipt of \$10.00 which will be applied on the tuition. An hourly program of the course will be sent on request.

For further information address Michael Reese Hospital, Cardiovascular Department, 29th and Ellis Avenue, Chicago.

* * *

The American Board of Obstetrics and Gynecology announces that at the recent examinations held by the Board at St. Louis, Missouri, on May 13, 14, 15, and 16, two hundred and fifty-nine candidates were examined. Two hundred and twenty-eight candidates were successful in the examinations and were certified by the board, twenty-nine candidates failed, and two examinations were not completed by the candidates.

At the annual meeting of the board, held in St. Louis on May 12, 1939, it was found necessary, on account of increased administration expenses, to increase the application and examination fees. Effective immediately, these are to be as follows: Application fee \$15.00, payable upon submission of application for review by board; examination fee \$75.00, payable upon notification to candidate of acceptance of the application and assignment for examination. Neither fee is returnable. This increase does not apply to candidates whose applications were filed prior to May 12, 1939.

The next written examination and review of case histories (Part I) for Group B candidates will be held in various cities of the United States and Canada on Saturday, December 2, 1939, at 2:00 P. M. The board wishes to announce that it will hold only one Group B, Part I, examination in this and subsequent years. Candidates who success-

fully complete the Part I examinations proceed automatically to the Part II examinations held later in the year.

Applications for admission to Group B, Part I, examinations must be on file in the secretary's office not later than October 4, 1939.

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted by the entire board, meeting in Atlantic City, N. J., on June 7, 8, and 9, 1940, immediately prior to the annual meeting of the American Medical Association to be held in New York City from June 10 to 14, inclusive.

Applications for admission to Group A, Part II examinations must be on file in the secretary's office not later than March 15, 1940.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh, Pennsylvania.

Book Abstracts and Reviews

Surgical Pathology of the Diseases of the Mouth and Jaws. By Arthur E. Hertzler, M. D., Surgeon to the Agnes Hertzler Memorial Hospital, Halstead, Kansas; Professor of Surgery, University of Kansas. Cloth. Pp. 248, with 206 illustrations. Price, \$5.00. Philadelphia, Montreal and London: J. B. Lippincott Company, 1939.

The indefatigable surgeon and author of "The Horse and Buggy Doctor" has added another volume to "a country doctor's bookshelf"—his tenth monograph on the subject of surgical pathology. Preceding volumes deal with the surgical pathology of bones, of skin, of blood vessels, of muscles and nerves, of the genito-urinary tract, of the female generative organs, of the mammary gland, of the peritoneum, of the gastro-intestinal tract, of the thyroid gland, and of the neck. The present volume completes the series. Like everything else the author writes, the book deals with what he has seen rather than what he has read. The experience of one observer may be narrow but no one familiar with Hertzler's works will ever accuse them of this fault. The reviewer constantly marvels that so much can come from the pen of one man. That he was once a "country doctor" should be an inspiration to many of us who lack facilities of reference libraries and research laboratories.

Illustrations are not only numerous but of the highest quality, consisting of photographs of the patient, of gross specimens and of microscopic sections. The text is brief but adequate and each chapter contains a bibliography of important papers on the included subjects.

Dental surgeons and all interested in diagnosis, surgery and pathology of the mouth should find this book of value

C. K. W.

The Foundation of Nutrition. By Mary Swartz Rose, Professor of Nutrition, Teachers College, Columbia University. Third edition. Cloth. Pp. 625. Price, \$3.50. New York: The Macmillan Company, 1938.

In this third edition, the foundations of nutrition are presented in a revised form so as to include the findings of scientific research of recent years. These revisions serve to add to and re-emphasize the knowledge of this subject as set forth by Mrs. Rose in the first edition of her book in 1927.

The book is written in a very understandable manner even for those who are not highly specialized in the field of nutrition. The adequate diet is discussed at length. The chapters on the minerals and vitamins serve to clarify our present day knowledge concerning the practical use of these substances. The various animal experiments referred to, and the many graphs, photographs and other illustrations make the book very interesting and understandable. The appendix includes usable tables showing the food values of various foods and also weight, height and age tables for children and adults. Reading references, given at the end of each chapter, are of benefit to those who wish to learn more about the various phases of nutrition presented.

M. W. B.

Clinical Gastroenterology. By Horace Wendall Soper, M. D., F. A. C. P., St. Louis, Missouri. Cloth. Pp. 314, with 212 illustrations. Price, \$6.00. St. Louis: The C. V. Mosby Company, 1939.

In this volume of 300 pages, the author has presented the subject of gastroenterology in a simplified and practical manner. Emphasis is placed on diagnosis rather than treatment. Excellent radiographic illustrations add to the value of the book. The text is highly flavored with the author's personal views which at times are not in accord with the generally accepted viewpoint. For certain reasons, he feels that cow's milk is a source of many diseases and is enthusiastic about condensed milk and gives this attitude as much space as he devotes to peptic ulcer.

While brevity may appeal to the general practitioner to whom this volume has its greatest appeal, it will undoubtedly prevent the volume's success as a specialist's text-book.

C. K. W.

What It Means To Be A Doctor. By Dwight Anderson. Cloth, \$1.00. Paper, \$25. Pp. 96. New York: Public Relations Bureau, Medical Society of the State of New York, 2 East 103d Street, 1939.

Is your son planning to study medicine? Have you a boy in medical school already? Then you and he can read, with pleasure and profit, "What It Means To Be A Doctor." Of greater importance: "Most people know what it means to be a patient." Do they (your patients) know what it means to be a doctor? The fact that many of them do not would seem to indicate that they, more than your son and you, should read this little volume "aiming to convey an impression of the doctor's way of life; his character, his education, his ability and his skill."

"Ability to care effectively for the sick is partly inherent in the doctor's nature and partly acquir-

ed. Acquiring it is a long process. Indeed, the period of training is longer than that in any other profession. Moreover, the process of education does not cease when he receives his diploma; study must continue throughout life.

"How many patients are curious about the source and degree of perfection of the personal skills upon which they rely when they seek the doctor's help? Most people accept the doctor on trust. . . How much better it would be if the patient knew more about the doctor. . ."

In such ways Dwight Anderson, a layman, has developed a brief treatise of appealing interest. It would not be out of place in every home in the land. The opening sentences of the volume might well have been used also as concluding lines. Said Mr. Anderson: "When illness occurs, whether it overtakes a man as he sits at his desk, a woman at her daily tasks or a child during his sleep—we call the doctor.

"He comes.

"Something happens the moment he enters the room. A load of responsibility is lifted from the patient and his family. Bewilderment gives way to relief. There is hope, for the doctor has arrived."

D. L. C.

Surgical Anatomy. By C. Latimer Callender, A. B., M. D., F. A. C. S., Associate Clinical Professor of Surgery and Topographic Anatomy, University of California Medical School; Member of Founders' Group of the American Board of Surgery; Member of American Association of Traumatic Surgery; Associate Visiting Surgeon to the San Francisco Hospital. With a Foreword by Dean Lewis, M. D., Sc. D., LL. D., F. A. C. S. Second edition, entirely reset. Cloth. Pp. 858, with 819 illustrations. Price, \$10.00. Philadelphia and London: W. B. Saunders Company, 1939.

Callender's "Surgical Anatomy" should prove of value to surgeons and medical students. It presents anatomy as the surgeon sees it in the operating room as it relates to standard surgical procedures. It makes anatomy a subject of vital interest rather than a description of dead organs. In the discussion of each part of the body, the anatomic description is followed by a description of the common diseases affecting the part and the standard operations on that region of the body.

In the new edition, the author has added many new sketches illustrating the steps in the more common standardized operations. He has added also a section dealing with the lumbar sympathetic ganglia and the presacral plexus, the surgery of cervical ribs, intervertebral discs and hypertrophied ligamentum flavum. Though one hundred new figures have been added, the size of the volume has been reduced through the deletion of obsolete text.

C. K. W.

Principles of Hematology: With 100 Illustrative Cases. By Russell L. Haden, M. A., M. D., Chief of the Medical Division of the Cleveland Clinic, Cleveland, Ohio; formerly Professor of Experimental Medicine in the University of Kansas School of Medicine, Kansas City, Kansas. Cloth. Pp. 348, illustrated with 155 engravings and a colored plate. Price, \$4.50. Philadelphia: Lea and Febiger, 1939.

This book proceeds on the assumption that clinical hematology is relatively simple if the fundamental principles on which variations in the blood

rest are thoroughly understood. The various cells of the blood are described in detail and the mechanism by which each varies from the normal are discussed. From the standpoint of treatment blood disorders are simply disturbances in the normal physiology of the blood constituents and not true diseases, and therapy should concern itself with them as departures from normality. The author lays particular emphasis on the technic of examination as clinical interpretation necessarily depends on accurate and complete laboratory data. The groups into which the blood dyscrasias naturally fall are discussed from the point of view of differential diagnosis, and illustrative cases are presented. The book reflects the advances in hematology of recent years and includes the essential newer methods of investigating the blood, together with the newer clinical conceptions of the blood disorders. The purpose of the book is to simplify the study of these disorders for both the student and the practitioner and in this respect the author has achieved a notable success.

This volume should be of real usefulness to anyone interested in the subject and should find a place in the working library of the busy doctor.

S. R. D.

Gonorrhea in the Male and Female. By P. S. Pelouze, M. D., Assistant Professor of Urology, University of Pennsylvania; Consulting Urologist to Delaware County Hospital; Special Consultant to the United States Public Health Service; Member of Board of Directors, American Social Hygiene Association, and American Neisserian Medical Society. Third edition, thoroughly revised. Cloth, Pp. 489, with 144 illustrations. Price, \$6.00. Philadelphia and London: W. B. Saunders Company, 1939.

During the two years that have elapsed since the publication of the previous edition of Pelouze's "Gonorrhea in the Male and Female," great advances have been made in our knowledge of gonorrhea chiefly because of the introduction of sulfanilamide. Hailed at first as a cure-all, the drug fell far short of that ideal though, in about two-thirds of the patients treated with it, symptomatic cure with negative smears are rapidly obtained. The remaining third must still be treated along lines intended to increase tissue immunity as described in previous editions. The part of the book dealing with therapy has been changed radically to include not only the new but also the best of our old knowledge. The relation of the sulfanilamide therapy to the carrier state is also brought up in the new edition. At least half of the third edition deals with material undreamed of two years ago.

Because of the aroused public interest in syphilis, some advanced medical thinkers are looking forward to the prevention and eventual eradication of gonorrhea. For this reason, the up-to-date physician will find much of interest in the chapters dealing with prophylaxis, case finding, public education, treatment by druggists and charlatans.

There is so much new material in this book that the former edition has become almost worthless. The reader may detect a great deal of preaching in some chapters and may feel that personal attitudes have frequently been substituted for proved facts, but since there are few of us who do not

deserve a good lecture on the need for gentleness in treatment, this unscientific attitude may be excused. Certainly it does not dampen the reviewer's enthusiasm for what he considers a striking advance in monographs dealing with gonorrhea.

C. K. W.

Surgical Treatment of Hand and Forearm Infections. By A. C. J. Brickel, A. B., M. D., Departments of Anatomy and Surgery, Western Reserve University. Cloth, Pp. 300, with 166 text illustrations, 35 black and white illustrations, 10 color plates. Price, \$7.50. St. Louis: The C. V. Mosby Company, 1939.

The first portion of the book is given over to an anatomic consideration of the hand and forearm and this is materially aided by excellent plates showing anatomic dissections of the various spaces and vessels. A number of these plates are in color. There are also a number of plates illustrating the spaces of the hand as outlined by injection, followed by x-ray. The clinical description of individual cases is graphically aided by splendid pictures taken before and after treatment. The types of incision for the various infections are stressed. The latter part of the book consists of a consideration of the results of human bites, infections of the hands as complicated by diabetes, industrial hazards as related to hand infections and the medicolegal consideration of hand infections.

Even though one's library includes the other standard works on infections of the hand, it is felt that the work by this author should be included in the library of anyone who treats infections and injuries of the hand.

J. L. B.

Clinical Biochemistry. By Abraham Cantarow, M. D., Associate Professor of Medicine, Jefferson Medical College; Biochemist, Jefferson Hospital; and Max Trumper, Ph.D., Clinical Chemist and Toxicologist, formerly in charge of the Laboratories of Biochemistry of the Jefferson Medical College and Hospital. Second edition, revised. Cloth, Pp. 666. Price, \$6.00. Philadelphia and London: W. B. Saunders Company, 1939.

In 1932, Trumper and Cantarow published a book dealing with chemical pathology and the interpretation of laboratory findings. It was called "Biochemistry in Internal Medicine." Their present volume, though entitled "Clinical Biochemistry," is actually a revision of their previous work. It is interesting to note the many important additions to our knowledge in the field of biochemistry which have been included in this edition—the influence of the anterior pituitary and renal cortex on carbohydrate metabolism, the effects of Vitamin B₁ on carbohydrate metabolism, serum phosphatase activity, anemia, water balance, edema, dehydration, iron metabolism, magnesium metabolism, chemistry of bile and practical aspects of vitamin deficiencies.

The authors have succeeded in translating the results of research in pure physiology into practical ideas which may be used in clinical work. Unfortunately our knowledge of biochemical processes is being increased so rapidly that many new observations have not yet been tested in the clinical field. So much is still pure science without application, and so much is still unsettled, that

the reader may be confused by detail and discouraged by the apparent lack of coordination. As our knowledge of the subject increases, much of our present knowledge will prove of practical importance while other observations will not stand critical analysis. Certainly when this stage is reached, a book on biochemistry will be fascinating reading, its pages throwing light on many previously obscure human activities. In the meanwhile, one will find frequent reference to the new edition of Cantarow and Trumper well worth while.

C. K. W.

Malaria Education. By Elma Rood, B. S., M. S., Director of Public Health Nursing Education, University of Kentucky. Paper. Pp. 183. Price, \$2.00. Madison College, Tennessee: The Rural Press, 1939.

Miss Rood states, in the preface to *Malaria Education*, that her object in preparing this manual is "to supply public health workers and teachers with simple, practical, and interesting explanations of the various phases of malaria control, and to suggest educational methods of presenting these explanations in adult programs, and through units developed on elementary, high school, and college levels."

In the manner of presentation and the completeness with which the subject is treated the author appears to have accomplished her purpose with marked success. The subject matter is so presented as to appeal to all educational groups. The volume is well illustrated with useful charts, ingenious graphs and good photographs. Clearly written, the value of the text is enhanced by the inclusion of an annotated bibliography on malaria that will be useful to teachers, health workers and students.

Unfortunately the binding of the volume is such that it will not stand hard usage.

S. R. D.

Community Health Organization. Edited by Ira V. Hiscock, Professor of Public Health, Yale University School of Medicine. Third edition. Cloth. Pp. 332. Price, \$2.50. New York: The Commonwealth Fund, 1939.

Though not so intended, *Community Health Organization* might well be considered a companion volume to Tobey's *Public Health Law*, reviewed elsewhere in this column. Certainly it ought to occupy a place along side that of Tobey's book on the desk of the public health administrator.

In view of the different types of health organizations existing in the United States, Dr. Hiscock has encompassed admirably the difficult task of dealing with the best features of a representative number of them. One will easily appreciate the limitations of the book in strictly rural health work, yet it cannot be said to be without value even in the most isolated community.

Rapid strides made in the field of public health since the edition of 1932 have made it necessary that the volume be amended in many particulars; and thus it has been brought up to date to continue to serve a most useful purpose.

D. L. C.

Short Stature and Height Increase. By C. J. Gerling. Cloth. Pp. 159. Price, \$3.00. New York: Harvest House, 1939.

Those of short stature who desire either to become or to appear taller may find helpful suggestions in this little volume of eighteen brief chapters, though it is conceded there may be much beyond the understanding of the average reader. Even so, the effects of food, sleep and disease on growth are easily comprehensible, as are the benefits accruing from proper exercises. Perhaps the most useful portions of the book are the chapters entitled "Clothes and Height" and "Psychological Aids." After a perusal of the latter, and if efforts at height increase have failed, one may resolve "in whatever state I am, therewith to be content."

It is not likely physicians will find in the book much that is new; and it is feared the price of three dollars will preclude purchase by many lay readers.

D. L. C.

Organized Payments for Medical Services. By the Bureau of Medical Economics, American Medical Association. Paper. Pp. 185. Chicago: American Medical Association, 1939.

It would stretch the imagination of a social planner to devise any scheme for the organized payment for medical services that is not described in this publication of the Bureau of Medical Economics of the American Medical Association on "Organized Payments for Medical Services." Several hundred plans for medical care of the indigent involving governmental support and medical society management are explained. Social Security legislation has brought about changes in medical arrangements reaching into almost every locality in the United States and affecting health departments, medical societies, and state and local governments. Types of plans proposed by the Farm Security Administration to provide medical services to Administration clients in 127 counties and covering 100,000 low income families are described. Medical societies have organized post-payment and prepayment plans of medical care offering a wide selection of types. Some provide for a cash indemnity to be paid to the insured with which he can purchase his own medical service and others provide medical service directly.

Industries, unions, fraternal organizations, and all sorts of mutual societies provide medical benefits for their members by a variety of prepayment devices. Some 3,000,000 persons are covered by group hospitalization plans, which show a wide variety of relations with state and county medical societies. Commercial insurance companies, all of whom pay benefits in cash, are also entering this field on a large scale. It is estimated that approximately \$300,000,000 in cash is paid out annually by insurance companies to assist in paying medical bills.

The House of Delegates of the American Medical Association has endorsed cash indemnity prepayment plans, but has not sought to prohibit any of its component societies from cooperating with or organizing other types of prepayment for medical service provided their character is not such as to render it impossible to give good medical service.

The number and variety of the plans for medical services—operating and proposed, postpayment and prepayment, service and cash, medical society and other organization sponsored—give proof of the efforts that are being made to supplement the private practice of medicine and indicate a desire to discover, by social experimentation, a solution of local medical problems.

B. M. E.

A Textbook of Clinical Neurology. By Israel S. Wechsler, M. D., Professor of Clinical Neurology, Columbia University, New York; Neurologist, Mount Sinai Hospital; Attending Neurologist, Neurological Institute; Formerly Attending Neurologist, The Montefiore Hospital, New York. Fourth edition, revised. Cloth. Pp. 844, with 162 illustrations. Price, \$7.00. Philadelphia and London: W. B. Saunders Company, 1939.

In Wechsler's "Neurology," the reader will find an excellent description of the neurologic examination with detailed interpretation of signs, symptoms and laboratory findings. Other sections of the book deal with diseases of the spinal cord, diseases of the peripheral nerves, diseases of the brain and the neuroses. Emphasis is laid on the diseases commonly encountered, like poliomyelitis, the neuritides, herpes, cerebral hemorrhage, brain tumors, spinal cord injuries, sciatica, meningitis, multiple sclerosis and chorea. Rare diseases are described briefly. The author has thus succeeded in producing a textbook suitable both for study and for reference.

In the new edition, the author has completely revised the section on neuritis, adding the newer knowledge of the relation of vitamin deficiency to peripheral neuritis, the relation of restricted diets to neuritis and the effect of alcoholism and arsenic in producing neuritis. The smell tests of Elsberg, the carotid sinus syndrome, the premotor syndrome, petrositis and electro-encephalography are new subjects briefly discussed.

This is an ideal textbook and one which should be owned and used by the general practitioner.

C. K. W.

Public Health Law. By James A. Tobey, Dr. P. H., LL.D., Member of the New York Bar; Fellow, American Public Health Association; Associate Fellow, American Medical Association; Lecturer on Public Health Law at Harvard University School of Public Health and at Massachusetts Institute of Technology. Second edition. Cloth. Pp. 432. Price, \$3.50. New York: The Commonwealth Fund, 1939.

There does not exist within the knowledge of the reviewer a more valuable book on the subject than Tobey's Public Health Law. A natural first reaction would be that such subject would prove of exceeding dryness, and yet such is not the case. Indeed, its practical application in the solution of legislative problems arising in connection with state, county and city health work makes it a most interesting volume.

One marvels at the ability of Dr. Tobey to incorporate some thousand and sixty-seven court decisions, many of them from Alabama's judiciary, within a book the size of this one; and yet this he has done in a most helpful way.

It should be near the hand of the health officer, and should prove of value to students of public health and to attorneys.

D. L. C.

Factual Data on Medical Economics. By the Bureau of Medical Economics. American Medical Association. Paper. Pp. 67. Chicago: American Medical Association, 1939.

Current medical problems make factual data on medical economics essential. For example: Has the supply of physicians in the United States maintained a fairly uniform relation to a steadily increasing population? What effect has the reduction in the number of medical schools had on the total number of graduates? Is it true that the supply of physicians in rural districts is far better in the United States than in any country with sickness insurance or some other type of state medicine?

These and many more pertinent questions are dealt with in this publication of the American Medical Association, meriting the attention of all members of the profession sincerely interested in the future of American Medicine.

D. L. C.

Truth About Medicines

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following devices have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

E & J Resuscitator and Inhalator.—The E & J Resuscitator and Inhalator may be used for producing artificial respiration by mechanical means or simply as an inhalator for providing a concentration of oxygen or a mixture of oxygen and carbon dioxide around the mouth and nostrils. The resuscitator side of the appliance produces artificial respiration by setting up in the lungs a sequence of alternating positive and negative pressures. The stroke automatically adjusts itself within limits to the lung capacity of the patient. The inhalator side of the apparatus supplies a constant flow of oxygen or oxygen and carbon dioxide mixture to the mouth and nostrils. The transfer from the resuscitator to the inhalator side of the device is accomplished by means of a lever, so that either one or the other technic is independently available. The E & J Resuscitator and Inhalator is designed to be used in emergencies in which natural respiration has failed with resulting asphyxia. The portable unit may be employed by fire and police departments, by life guards and mine rescue squads, and by other trained organizations rendering first aid. The hospital unit is provided for such respiratory emergencies as arise in hospital practice. The evidence that

has been made available indicates quite clearly that the machine has demonstrated its worth in trained hands. The critical data consisted of many reports on the use of the resuscitator in the fields of surgery and obstetrics. In accepting the apparatus the Council wishes to stress two points, namely: (a) no artificial resuscitator or inhalator should replace the training of medical men and first aid men in the prone pressure method of resuscitation; (b) it is very important that this machine be used by well trained operators who have received their instruction from competent physicians. E & J Manufacturing Company, Glendale, Calif. (J. A. M. A., May 13, 1939, p. 1945).

Luxor Professional Model Alpine Lamp.—This lamp contains a high pressure, low voltage quartz mercury arc burner and is designed for therapeutic use in hospitals or offices. It is available for operation on alternating current and direct current. The intensity of the ultraviolet radiant energy at 30 inches from the burner for wave length 3,130 angstroms and shorter is 1,200 microwatts per square centimeter. This energy will produce a first degree erythema (mild reddening) on the average person after an exposure of one minute. The alternating and direct current lamps are equal in intensity and erythema production. The unit was tried out in a clinic acceptable to the Council and reported to give satisfactory clinical service. Hanovia Chemical and Manufacturing Company, Newark, N. J.

High Tension Short Wave Apparatus, Model RF-1.—This unit is recommended for medical and surgical diathermy. It is a portable model, equipped with pad and cuff electrodes and electro-surgical accessories. Evidence was submitted by the firm to substantiate tissue heating claims made for the Model RF-1 Short Wave Diathermy Apparatus as applied to the living human thigh, and the Council voted to accept this device, for the cuff technic only. High Tension Electric Corporation, New York City. (J. A. M. A., May 20, 1939, p. 2049).

Sanborn Waterless Metabolism Tester.—This metabolism tester is a compact, semi-portable unit that can be readily wheeled from room to room. This machine differs from the Sanborn Motor Graphic Model E. I. S. (*The Journal*, Aug. 22, 1936, p. 587) principally in having a vertically moving rubber

bellows in place of a water spirometer. Two different methods of determining the rate of metabolism may be used with this waterless apparatus. In the short test method a definite amount of oxygen, 1.25 liters, is placed in the bellows and the patient breathes from this until the oxygen is consumed. The time necessary for this is noted and a computation is made on this basis. No corrections for temperature and barometer are necessary in the short test. In the long test method the bellows is filled with an excess of oxygen and the patient breathes this for a definite length of time, from ten to sixteen minutes. The amount of oxygen is then computed from the fall in the bellows. This fall is calibrated in terms of volume of oxygen. With this method, temperature and barometer readings must be corrected for local conditions. These corrections are made in the same way that is customary in the common type of water-sealed metabolism testers. Clinical tests indicated that the Sanborn Waterless Metabolism Tester is accurate within the limits allowed for metabolism testing apparatus. Sanborn Company, Cambridge, Mass.

"Challenger" Model K Short Wave Units.—These units are recommended for medical and minor surgical uses. They are available in three cabinet styles designated 970 (a portable model), 980 (the Standard model), and 990 (the DeLuxe, or larger, model). The unit was tested mechanically and clinically and found to give satisfactory service. The Birtcher Corporation, Los Angeles, Calif. (J. A. M. A., May 27, 1939, p. 2133).

Hanovia Super Alpine Lamp (Models S and E).—The Hanovia Super Alpine Lamp is a high pressure, high intensity quartz mercury arc lamp recommended for use in the hospital or physician's office. Model S operates on alternating current, Model E on direct current. The maximum ultraviolet energy of these lamps (after they have warmed up) is sufficient to produce a first degree erythema (mild reddening) on the average person after an exposure of twenty seconds. The firm submitted evidence to substantiate the ability of these lamps to produce suitable ultraviolet radiation to prevent or cure rickets in children, to prevent and cure infantile tetany. The unit was tried out in a clinic acceptable to the Council and gave satisfactory performance. Hanovia Chemical & Manufacturing Company, Newark, N. J.

THE JOURNAL

of

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Published Under the Auspices of the Board of Censors

Vol. 9, No. 2

Montgomery, Alabama

August 1939

MEDIASTINAL TUMORS IN CHILDREN*

REPORT OF CASE

By

D. B. MONSKY, M. D.
Montgomery, Ala.

Of recent years there has been a renewal of interest in intrathoracic neoplasms; and modern methods of diagnosis, such as radiology, bronchoscopy and the use of the esophagoscope, have opened up possibilities of the removal of these tumors at an early and curable stage. Although new growths of the mediastinum are exceedingly rare in children, the possibility of their occurrence should be borne in mind in the differential diagnosis of obscure intrathoracic conditions since early diagnosis is essential if anything is done to remove them.

Tumors of the mediastinum are primary or secondary, and benign or malignant. In all mediastinal tumors the ratio of benign to malignant is 1 to 10 and the ratio of primary mediastinal tumors to secondary tumors is 8 to 1. Ochsner states that of all mediastinal tumors encountered the most frequent is the dermoid cyst, while in infants the most frequently encountered is the enlarged thymus.

The percentage of mediastinal tumors in children is very small in comparison to figures for adults. Rosenson, in a review of the literature prior to 1923, was able to collect only 38 cases occurring in infants and children. Although many additional cases have occurred and been reported since this time, the number is still comparatively very small. Of the 38 cases reviewed by Rosenson the following types of mediastinal neoplasms in childhood were reported and described: sarcoma 15; carcinoma 9; dermoid cyst 6; lymphadenoma 4; from thymus of unknown character 2; lipoma 1; and ganglioneuroma 1.

*Read before the Association in annual session, Montgomery, April 18, 1939.

From the standpoint of the pathologist, the source of some mediastinal tumors is a matter of speculation. There is a difference of opinion, for instance, concerning the source of mediastinal dermoids or teratomas. Ewing expressed the belief that a thoracic teratoma is produced by the growth of an aberrant sex cell or metastasis from a primary testicular tumor. Smith and Stone, Wheatley and others hold that the source of such tumors is a blastomere which has become displaced in the course of development. This view, no doubt, is more tenable because a blastomere, which is the name given to a cell in the early stages of development after fertilization, may produce a teratoma of any degree of complexity. Thus it is that these tumors may contain all three types of embryonal tissue which in its growth may differentiate into almost any structure. Although dermoid cysts and teratomas are congenital lesions, they frequently do not cause symptoms until puberty when the tumor is apparently stimulated to more rapid growth. The finding of hair, sebaceous material and cholesterin crystals in the sputum is almost pathognomonic of a dermoid cyst so that careful examination of the sputum should be made in all cases in which a mediastinal tumor is suspected.

In addition to dermoid cysts, other congenital cysts occur in the mediastinum, especially in children, originating from the primitive digestive or respiratory system. Such a case has been reported by Johnson. In contrast to dermoids, these cysts never contain ectodermal tissue such as sebaceous material or hair. The secretion from such a cyst is mucoid. Diagnosis is extremely difficult and is rarely made.

Mediastinal lymphosarcoma is the commonest form of massive mediastinal enlargement in children, and perhaps the commonest form of lymphosarcoma. Such tumors arise most commonly from the thymus gland. A rather characteristic feature, especially of

lymphosarcoma which frequently occurs in children, is the rapid progression of the clinical picture, the condition at times running its course in two or three months. Because these tumors are composed principally of rapidly growing lymphocytes, they are usually radiosensitive and the results of deep x-ray therapy in such tumors are generally better than those obtained by surgical extirpation.

Also noted have been carcinoma, lipoma and lymphadenoma. Of interest are two cases of lymphadenoma of the mediastinum reported by Marquezy and Heraux in which the blood picture was that of a lymphatic leukemia.

Ganglioneuroma of the mediastinum is extremely rare in children. A ganglioneuroma is a neoplasm composed of ganglionic cells and nerve fibers. It usually originates in the sympathetic nervous system. It is commonly benign, but malignant cases have been reported. The successful removal of a mediastinal ganglioneuroma in an eight year old girl is reported by Rosenon.

The clinical manifestations and subjective symptoms of mediastinal tumors are due to mechanical pressure on or infiltration of the involved or surrounding structures in the region invaded and on the amount and severity of disturbed function of the intrathoracic organs.

Pressure on the trachea may cause a persistent cough, dyspnea, cyanosis and stridor; on the bronchi, cough and physical signs of decreased aeration of the corresponding lung.

Pressure on the esophagus produces pain and difficulty in deglutition.

Symptoms referable to compression of the veins will depend on whether the superior vena cava, the vena azygos major or the inferior vena cava is involved. Pressure on the first may produce edema of the face, neck, upper part of the thorax and arms; dilatation of the superficial veins of the face, neck and upper part of the thorax, cyanosis of the face; exophthalmos with disturbance of vision; tinnitus with impaired hearing; headache and dizziness. Pressure on the vena azygos major is marked by engorgement of the intercostal veins and hydrothorax of the right side and at times by pericardial effusion. Compression of the inferior vena cava may produce edema, dilatation of the veins of the lower extremities and albuminuria. Pressure on the heart may cause varying de-

grees of cyanosis, displacement of the heart or irregular heart action; while pressure on the aorta or its branches may result in diminution or inequality of the radial pulses, precordial pain and pallor.

The nerves which may become involved by the pressure of the new growth are the vagus, the inferior laryngeal and the sympathetic nerves. Compression of the vagus causes irregularity of the heart with slowing, syncope, difficulty in deglutition and cough. Pressure on the inferior laryngeal may cause paralysis of the posterior crico-arytenoid muscles, thus causing stridor, brassy cough and inspiratory dyspnea. Involvement of the sympathetics may cause voice changes, unilateral sweating of the face, visual disturbances, ptosis of one lid, inequality of the pupils, of the palpebral fissures and enophthalmos of the affected side.

The neoplasm may grow forward producing erosion of the sternum and costal cartilages, or it may extend backward to the vertebra and spinal cord giving rise to a paralysis of the lower extremities or even to nerve pain, root pain or herpes.

Furthermore, tumors of the mediastinum, especially those of cystic nature, may become infected and the clinical picture resulting may be that of some obscure respiratory or infectious process.

The treatment of mediastinal tumors consists of either x-ray therapy or surgical extirpation. Unfortunately these measures are usually heroic rather than curative because definite symptoms of intrathoracic difficulty are not usually manifest until the disease process is well under way and the new growth has attained enormous size. Early diagnosis is therefore the exception rather than the rule and will remain so unless the condition is kept in mind in all cases in which no ready diagnosis can be made.

The following case is presented because of the initial paucity of intrathoracic symptoms, the rapidity of its progress and to illustrate the pitfalls encountered in making an early diagnosis.

REPORT OF CASE

A. J., a white female infant, 14 months old, was admitted to the pediatric service of St. Margaret's Hospital on July 8, 1938.

For one month prior to admission the parents noted that the legs, feet and eyelids had begun to swell. According to the parents, treatment had been instituted for kidney trouble. The therapy consisted of a colorless liquid medicine and restriction of the infant's diet solely to boiled milk

and water. There was no history of fever, respiratory infection or "blue spells." There was no history suggestive of syphilis, cancer or tuberculosis in either parent or in the child. The infant has a brother 3 years old who is living and well.

The parents state definitely that prior to the onset of the present illness the child had always been well and had developed as a normal full term baby.

As the swelling of the legs and eyelids continued to increase, the parents decided to bring the child to the hospital where it was admitted.

Physical examination revealed a well nourished white female infant weighing 22 pounds. Rectal temperature was 96.6. The patient was quite pale and the eyelids were puffy and the lower extremities apparently edematous. The child appeared comfortable and was sitting quietly in bed. The skin appeared clear. Examination of the ears, nose and throat revealed no abnormalities. The pupils were equal and reacted to light and accommodation. There were six teeth present. The chest had a rachitic flare. On physical examination there was no impairment of resonance and the breath sounds were normal, though a few harsh rhonchi were heard throughout. The heart was normal to percussion and auscultation. The abdomen was quite prominent. There were no palpable masses nor was any fluid evident. The legs and feet were quite edematous and there was marked pitting edema.

The following laboratory data were obtained: Red blood count 3,540,000; white blood 14,250 (neutrophils 66%, small lymphocytes 20%, large lymphocytes 14%) and hemoglobin 60%. Wassermann and Kahn reactions were negative on both of the parents and the child.

Urinalysis (uncatheterized specimen) showed a slightly positive test for albumin and the presence of about 5 pus cells per high power field with no clumping. Tests for sugar and acetone were negative.

On account of the apparent secondary anemia and because of the dietary restriction prior to admission, it was considered that the edema was in part due to a nutritional deficiency. Accordingly, the infant was put on a diet consisting of boiled milk, cooked cereal, stewed fruit, egg, fruit juice, cooked vegetable, soup and gelatine.

To further combat the nutritional deficiency, a transfusion was given on July 9, 1938, using 100 cc. of whole blood, the father being the donor. There was no rise in temperature or reaction following the transfusion and the child rested and ate well for the remainder of the day.

On July 10, 1938 it was noted that the infant began to breathe rapidly and that there was a definite cyanotic tinge of the lips. An x-ray of the chest was made immediately upon noting the change in the child's condition. The following roentgenologic findings were noted by Dr. F. P. Boswell: "There is a shadow in the right lung extending from the apex to the base of the lung and extending from the mid-line to the mid-portion laterally, pushing the heart to the left side. This is probably a mediastinal tumor of thymic origin with some inflammatory reaction of the lung."

The respiratory embarrassment and cyanosis

became progressively and rapidly more pronounced and the child died before x-ray therapy could be applied in the hope of alleviating the condition.

Unfortunately, autopsy permission was denied. It is felt, however, that this presentation will not be in vain for herein is a case in which there is x-ray evidence of a mediastinal enlargement which was unsuspected until respiratory embarrassment was noted. It is entirely possible, though not probable, that, had x-ray studies been made upon admission to the hospital and therapy directed solely toward the alleviation of the intrathoracic condition, as evidenced by the x-ray findings, the chance of a recovery would have been enhanced.

BIBLIOGRAPHY

- Harrington, S. W.: Mediastinal Tumors, *Ann. Surg.* 96: 843-856, 1932.
- Marquezy, R. A., and Heraux, A.: Tumors of the Mediastinum in Children, *Gaz. med. de France*, p. 97, 1933.
- Ochsner, Alton: Mediastinal Tumors. Brennenman, *Practice of Pediatrics*, Vol. II, Chap. 54, pages 12-21.
- Poynton, F. J., and Moncreif, Alan A.: Mediastinal Teratoma in a Young Infant, *Proc. Royal Soc. Med.* 22: 635 (March) 1939.
- Rosenson, Wm.: Neoplasms of the Mediastinum in Infancy and Childhood, *Am. J. Dis. Child.* 26: 411-417 (Nov.) 1923.
- Smith, L. W. and Stone, J. S.: Tumors of the Mediastinum in Children, *Ann. Surg.* 79: 687-708, May 1924.
- Scott, A. J.: Lymphosarcoma of the Mediastinum in a Child, *Arch. Pediat.* 44: 548-556 (Sept.) 1927.
- Wheatley, G. M.: Mediastinal Teratoma in a Child Seven Months Old, *Am. J. Dis. Child.* 54: 1057-1065 (Nov.) 1935.
- Wiglesworth, F. W., et al: Mediastinal Lymphosarcomas in Childhood, *J. Pediat.* 9: 331-349 (Sept.) 1936.

Induction of Labor.—Careful periodic examinations of the expectant mother, together with regulation of the diet, examination of the urine, taking of the blood pressure and the weight of each will eliminate many of the complications of pregnancy. Prenatal guidance is a prerequisite to good obstetrics. Complications will arise, however, in a relatively few cases which will necessitate the interruption of pregnancy and demand that labor be induced.

Preeclamptic toxemias, increasing severe chronic nephritis, known cases of small pelvises, especially in the multipara who has had prolonged labor before with or without loss of or injuries to the child, are among the chief indications for early induction of labor.

Spontaneous premature rupture of the membranes without onset of labor within twelve to twenty-four hours increases the danger of infection and necessitates steps to induce labor.—*Pearce, New Orleans M. & S. J., August '39.*

HYPERINSULINISM CURED BY REMOVAL OF AN ISLET CELL ADENOMA*

REPORT OF CASE

By

J. E. BECK, M. D.

And

G. O. SEGREST, M. D.
Mobile, Alabama

The name "hyperinsulinism" was first used by Dr. Seale Harris in 1923. Two cases of abnormally low blood sugar were described and an overactive pancreas was advanced in explanation. A year later three similar cases were reported. In 1924, Cammedge of London noticed cases similar to those of Dr. Harris but thought that a disturbance of the liver was responsible. Other mild cases were observed between 1924-1927 by Jonas, John and others; and hepatic disease, Addison's disease, hypothyroidism, hypopituitarism, progressive muscular atrophy, and status thymicolymphaticus were found associated and suggested as etiologic factors. At this time Dr. Harris again suggested hyperplasia or tumor formation of the island cells of the pancreas as a possible etiologic factor in some cases of hyperinsulinism producing spontaneous hypoglycemia. The first case in which the chain of evidence was completed and a definite pathogenesis established for this form of hypoglycemia was operated on by Dr. W. J. Mayo and reported by Dr. Russell Wilder. After an extensive study was made to rule out all recognizable causes of hypoglycemia, a tumor was discovered in the pancreas but there were metastatic nodules in the liver and lymph nodes as well. A necropsy revealed that the carcinomatous cells were strikingly similar morphologically to cells of the normal islands and that the tumorous tissue was supplied with blood, the grouping of cells around vascular spaces suggesting active incretory function. The insulin extracted acted like insulin when injected into rabbits.

Spontaneous hyperinsulinism is to be distinguished from spontaneous hypoglycemia as hyperinsulinism is considered to be due to overactivity of the islands of Langerhans and this overactivity may be due to diffuse hyperplasia, adenoma formation, and ma-

lignancy of the island cells. Hypoglycemia is merely a descriptive term indicating the lowering of the blood sugar which may be induced by a variety of causes. Wauchope has listed the following as causes of hypoglycemia:

(1) Excess of insulin due to therapy, tumors, hyperplasia or functional hyperinsulinism.

(2) Lack of opposing secretions which may result from diseases of the suprarenal glands, tumors of the anterior or posterior lobe of the pituitary or myxedema.

(3) Lack of glycogen resulting from destruction of reservoirs, such as diseases of the liver, wasting muscles, abnormal secretion of sugar in starvation and intoxication from phosphorus or arsphenamine poisoning.

(4) Disease affecting the pons or overactivity of the vagus nerve interfering with the regulative centers.

Holman has described three surgical conditions recorded in the literature as being responsible for hyperinsulinism resulting in hypoglycemia:

(1) Metastatic tumor or carcinomata of the islets of Langerhans which, contrary to usual carcinoma of secreting glands, have retained their property of producing insulin.

(2) A benign tumor or an adenoma of the islets comparable to an adenoma of the thyroid.

(3) An overactivity of an otherwise normal appearing pancreas, comparable, as pointed out by Wilder, to hyperthyroidism due to hyperplasia.

All three of these conditions have been subjected to surgical intervention with amelioration and in some cases complete cure. Medical treatment has proved unsatisfactory in cases in which there was a strong tendency to hypoglycemia. Frequent feedings of food high in carbohydrate is helpful in mild cases, but when the condition is severe even frequent large feedings may fail to prevent symptoms. The gain in weight which results from constant overeating may be a further handicap. Diets high in fat and relatively low in carbohydrates have been employed with varying results. Various drugs and endocrine preparations have been tried in an effort to create resistance to insulin. Desiccated thyroid gland, extract of the posterior lobe of the pituitary gland and epinephrin have been used because of their antagonistic effect to insulin. Epinephrin may be helpful for emergency use in resuscitation of a patient who has lost consciousness yet the action is not very strong and is not maintained. Thyroxin sometimes seems to decrease the amount of food required but the

*Read before the Association in annual session, Montgomery, April 19, 1939.

dosage which can be given does not give adequate relief. Therefore, in serious cases, the aid of a surgeon must be had.

In a resume of cases reported, the patients presented like histories. Symptoms of hypoglycemia usually begin to appear when the blood sugar is lowered to 70 mgs. per 100 cc. of blood. As a rule the lower the concentration of sugar the more alarming the symptoms become. However, in some cases the blood sugar may get as low as 40 mgs. per 100 cc. of blood before symptoms occur. The patient gives a history of gradual onset with a feeling of lassitude, dizziness, hunger, and a feeling of apprehension and mental confusion similar to that of alcoholic intoxication and frequently a crisis resembling epileptiform seizures. There is often trembling and sweating. Abdominal pain is sometimes pronounced. Sometimes the symptoms are so protean and indefinite that the case is likely to be dismissed as one of hysteria or nervousness. Because of this close clinical relationship it is strongly recommended that all epileptics have blood sugar studies.

Physical examination usually reveals nothing of any significance except sometimes a tendency to be overweight due to excessive intake of carbohydrate.

Basal metabolic readings are not significant. Blood pressure readings are commensurate with the age of the patient. The diagnosis is made on the history and laboratory findings. The most characteristic laboratory finding is a fasting blood sugar of 40 to 60 mgs. per 100 cc. of blood. The glucose tolerance test in these cases is typical. The following is from one of Whipple's cases:

Fasting blood sugar	41 mg.
½ hr. after glucose	117 mg.
1 hr. after glucose	86 mg.
2 hr. after glucose	96 mg.
3 hr. after glucose	63 mg.

Seale Harris believes that in these cases glucose tolerance tests should be over 6 hours, since in some cases at the end of 2 or 3 hours the blood sugar is still normal while at the end of 5 or 6 hours there is a sudden drop to subnormal with accompanying symptoms. The attacks appear at irregular intervals. Weeks may pass with little or no inconvenience in the milder cases. In extreme cases hourly feeding day and night may be necessary to prevent them. For the chronic case the treatment is medical and surgical, especially surgical if the disease

progresses too rapidly, and no longer responds to medical measures.

REPORT OF CASE

The following is Dr. Evarts Graham's detail report of a case as given to us by personal communication:

Mr. Henly Haywood Hamilton, 52 years of age, of Mobile, Alabama, was admitted to the Barnes Hospital on June 28, 1933, having been referred by Dr. J. E. Beck of Mobile, Alabama, who had already made a diagnosis on him of hyperinsulinism.

His chief complaints were (1) attacks of drowsiness with loss of consciousness during the past two years, (2) rather marked weakness for the last six or eight months, (3) constant joint pains for about eight months, and (4) pains in the occipital region of the head and behind the right ear for about two months.

He first noticed his present illness on June 18, 1931. He went to bed feeling well and was found unconscious by his family the next morning. His family physician was called but the patient did not regain consciousness until after three or four hours. He felt weak and drowsy the entire day and was unable to go to work until the following day. He had another attack four months later in the daytime while he was at home. Another attack occurred after an interval of about two months, then at intervals of one or two a week. At the time of admission the patient thought he would have an attack several times a day if his wife did not abort them. The wife noted that she could tell when one of the attacks was impending although the patient could not himself tell it and she could abort the attack with a cup of coffee containing a spoonful of sugar. Coffee without sugar does not prevent the attack. Shortly before admission the patient learned that Coca Cola would abort the attacks and he has been using that recently. At the beginning of his trouble, although his attacks were accompanied by some loss of consciousness, the patient would remain upright and resume his work later although feeling drowsy and weak. More recently, however, he has not been able to remain standing during the attacks and he has suffered minor injuries from falls which he has had. Also on several occasions he has soiled his clothing with urine during an attack. The attacks are not preceded by any definite warning to the patient. They occur most frequently at about two or three o'clock in the morning but sometimes they have occurred even at the dinner table immediately after a hearty meal. They have increased in frequency but not in severity. He always feels very weak after one of the attacks. His memory is not so good as formerly.

The ordinary physical examination showed nothing very remarkable. A complete neurologic examination was made by Dr. S. I. Schwab who found nothing noteworthy except that the x-ray examination showed evidences of pressure within the skull. Two sugar tolerance tests were made before the operation. The first one was as follows:

6:00 a.m.—Last two hours feeding (equivalent of 20 grams carbohydrate)
 8:00 a.m.—Fasting blood sugar-25 milligrams per cent—161 grams of carbohydrate taken by patient
 8:30 a.m.—Blood sugar-57 milligrams per cent
 9:00 a.m.—Blood sugar-127 milligrams per cent
 10:00 a.m.—Blood sugar-125 milligrams per cent
 11:00 a.m.—Blood sugar-131 milligrams per cent
 12:00 noon—Blood sugar-82 milligrams per cent
 1:00 p.m.—Blood sugar-29 milligrams per cent—slight drowsiness of patient
 2:00 p.m.—Blood sugar-15 milligrams per cent

All the urines were negative for sugar.

At 2 p. m. a severe attack occurred of profuse perspiration, wild expression, mouth constantly working, continuous scratching of right buttock, violent struggling with arms and legs tossing about in bed, mumbling responses to painful stimuli, pupils dilated and fixed, reflexes hyperactive and equal, unsustained ankle and patellar clonus. Five people were required to restrain the patient.

At 2:02 p.m. two-thirds of one cc. of adrenalin given to patient and clinical picture became more severe.

At 2:15 p.m. fifteen cc. of fifty per cent glucose were given intravenously with an almost instantaneous recovery of the patient.

The second glucose tolerance test was practically the same as the one just reported. A basal metabolism test gave a finding of minus three per cent.

The patient was operated on by Dr. Graham on July 6, 1933. Upper left paramedian incision. A large tumor about the size of a baseball was felt in the region of the pancreas after the stomach and colon had been lifted forwards. The liver was examined by inspection and palpation and seemed normal. There was no noticeable enlargement of either adrenal gland. The gallbladder was seen to be normal in appearance. The gastro-colic omentum was opened and the pancreas approached through this incision. Numerous large veins about the size of a lead pencil coursed over and around the tumor. After considerable difficulty with the necessity of clamping a very large number of vessels the tumor was completely removed. It seemed to occupy about two-thirds of the pancreas, including the tail. The tumor felt to be cystic in places and there was another part of it which seemed to be either calcified or to contain bone. After satisfactory ligation of all bleeding points a rubber dam drain was put down to the stump of the pancreas and brought out through a stab wound to the left of the incision. The incision was closed in layers.

Gross Pathology: Specimen consists of a tumor of the pancreas measuring 9.5 x 8.5 cm. on cross section. It is ovoid in shape and weighs 501 grams dry. On section it seemed to be composed of tissue of two types—one very cellular and homogeneous; the other bony. The bony tissue forms a frame-work deeply buried within the tumor; the capsule of the tumor also shows a tendency towards calcification in places. The tumor was encapsulated and apparently had been completely removed.

Microscopic Pathology: The material received for diagnosis consisted of a roughly ovoid mass of yellowish gray to purple color, pedunculated, and weighing 500 grams. It was generally of soft elastic consistency. Some surface areas felt cystic, others appeared to contain calcifications.

Sagittal section through the mass revealed that it consisted of yellowish-gray, friable tissue enclosing in the center a calcified core which connected with peripheral areas of calcification. The material from one-half of the tumor was studied in the fresh and fixed in aqueous, acetic and formol chrome sublimates, Regaud's and Bouien's fluids and in 10% formol in 90% alcohol. The remainder was preserved as a gross specimen.

A diagnosis was possible from the study of isolated fresh cells of the type which preponderated in the tumor. These were examined unstained and after staining with neutral red. The cells teased apart readily, were polymorphic, usually cuboidal or columnar. Their cytoplasm showed the haze of tiny granules characteristic of the islet cells of the pancreas. In some cells the granules were of uneven size and unevenly distributed; in others, alike normal and islet cells, the granules were of even size and distribution. The granules of occasional cells stained with neutral red, those of the majority did not; sometimes both types were found in the same cell. The close similarity of these cells to the normal islet cells of the pancreas was sufficient in itself to establish the diagnosis of an islet cell adenoma.

Study of fixed tissue stained by Mallory azan and other methods revealed that the tissue consisted of cords and areas of cells of the type described above, roughly separated by connective tissue partitions. A varying amount of hyalinization was observed in the walls of blood vessels. The staining reactions of the specific granules of the majority of cells placed them as more closely allied to the beta type of cells of the islets of Langerhans than to either the alpha or delta cell types. Giant cells containing two or more nuclei were frequently observed; also frequent were cells with very large hyperchromatic nuclei. Mitotic figures were rare.

The pathologic diagnosis, therefore, is an islet cell adenoma of the pancreas in which the majority of cells approach the beta type. A low grade malignancy is possible in view of the occurrence of tumor cells in the blood vessels.

The patient made a satisfactory recovery after operation although there was drainage of unactivated pancreatic juice for about two weeks. Glucose tolerance test made on July 19 (thirteen days after operation) was normal. The patient was discharged on August 5 in good condition with the wound healed.

After the operation the patient returned to his home in Mobile, and did not work for one year. In June 1934, he resumed his old job as carpenter for a street car company, and has lost no time since his return to work due to illness. He works from 3:00 P. M. to 10:00 P. M. daily, 7 days weekly, at hard manual labor as a carpenter. He takes no

food during the time he is working and feels none of the old symptoms previous to the operation. The following is a glucose tolerance test made February 10th, 1939:

Fasting blood sugar	84 mg. per 100 cc. of blood
30 minutes after 100 grams of glucose	115 mg.
In one hour after glucose	142 mg.
In two hours after glucose	98 mg.

All specimens of urine were free of sugar.

SYPHILIS IN PRIVATE PRACTICE*
CASE REPORTS ILLUSTRATING PROBLEMS
IN MANAGEMENT

By
C. K. WEIL, M. D.
And
W. H. Y. SMITH, M. D., C. P. H.
Montgomery, Alabama

INTRODUCTION

The material of this study comprises the cases of syphilis seen during one year in a general practice. To the specialist the number may seem small. To the general practitioner it may appear large. In contrast with the number of cases seen in this practice two years ago, the group is about fifteen times greater. The increase in patients under treatment is to be attributed to the fact that our index of suspicion is higher and that blood for serologic tests is taken almost routinely.

During the year 1938, patients totaling 362 were tested serologically for syphilis. Of this number, 57 or 15 per cent were positive. *Approximately one Wassermann test was taken for each day of the year and one positive found for each week of the year.*

Of 196 white patients tested, 12 or 6.1 per cent gave a positive reaction. Of the 166 colored patients tested, 45 or 27.1 per cent gave a positive reaction. In addition there were 6 doubtful reactions, 5 of which could not be followed up, but one showed a positive spinal fluid. The figures of the incidence of syphilis in private practice closely parallel those for Alabama, the figures of the latter being 8 per cent for the whites and 25 per cent for the colored.

Fifty-two (52) patients were classified according to the stage of the disease or the system primarily involved.

*Read before the Association in annual session, Montgomery, April 19, 1939.

Sero-negative primary	1
Sero-positive primary	4
Secondary	15
Latent	26
Neurosyphilis	4
Cardiovascular syphilis	2
Total	52

Attention is called to the fact that half the patients were in the latent stage and a diagnosis of syphilis would not have been made on the basis of physical findings only. In many cases syphilis would not have been considered had it not been for the routine serologic test. This group of patients includes those who came to the office for such complaints as cuts, burns, stomach aches, etc., which were entirely unrelated to syphilis.

All of the laboratories in the state of Alabama performed a total of 250,000 serologic tests during the year 1938. These same laboratories performed 301 darkfield examinations. This represents a proportion of 1 to 800. Attention is called to the fact that outside the laboratories in Montgomery and Birmingham, only 54 darkfield examinations were made and in one laboratory none whatsoever. Of the 301 darkfield examinations, 22 per cent were positive. In our practice there were 8 darkfield examinations as compared with 362 Wassermanns or 1 to 45; and 25 per cent of these were positive. These figures bring out two obvious facts—that neither in this private practice nor in the State as a whole has advantage been taken of the extremely valuable darkfield examination, and that either the public is not consulting the physician in the early stage of the disease or the physician is neglecting to make a diagnosis before the serologic test becomes positive.

During the year, 20 spinal fluid examinations were made. Of these 4 or 20 per cent were positive. These spinal fluid tests were made not for the purpose of making a diagnosis of syphilis, but rather to determine the presence or absence of central nervous system involvement. This type of examination is routinely performed on all patients under treatment before the end of six months of treatment. The finding of a positive spinal fluid is an indication for modifying the plan of treatment and should be repeated at intervals of six months to determine the response of the infection to treatment.

CASE REPORTS

It is our intention to present groups of case reports, each intended to bring out some particular point of value to the general practitioner.

1. Epidemiology

Case No. 1. A woman came to the office because of an ulcer and itching in the vagina. Examination of fresh vaginal secretion showed numerous trichomonads but the ulcer persisted despite treatment. The lesion being already of six weeks' duration, a serologic examination was made and the test was positive. As the woman was married, the chance of her husband having the disease was great. He was sent for and examination showed patchy alopecia, generalized lymphadenopathy, a papulo-pustular eruption and a scar on the penis of 4 to 6 weeks' duration. Upon inquiry, it was found that he had been exposed three months previously. Here is a beautiful example of a husband "stepping out," becoming infected and transmitting the infection to his wife. Both patients were put under routine treatment for early syphilis.

Case No. 2. A woman of 57 came to the office with a large macular rash and an ulcer high up in the vagina. Serologic tests were positive and on repetition were positive. A diagnosis of secondary syphilis was made. As it was known that the woman had a lover with whom she consorted, the man was sent for and examined, but both physical examination and serologic tests were negative. He was told to return to the office immediately upon the appearance of any penile lesion but at least once a week if no lesion appeared. Nine days later he returned to the office with four ulcers on the glans penis. Five darkfield examinations were made on that day and all were negative. The Kahn test at that time was negative. Four days later darkfield examination was again negative, but the Kahn test was positive.

In an attempt to trace the source of infection, the woman was questioned in regard to other exposures and it was learned that three months previously she had returned for a brief interlude to a former lover. It was known that this second man had had a negative Wassermann two years previously. He was sent for and examination revealed a copper-colored macular rash and a healed lesion on the pubis and dorsum of the shaft of the penis. The Kahn test was positive.

Three months prior to his return to his ex-mistress, this man had married a hotel prostitute. This woman was also examined and though there was no physical evidence of the disease, the serologic tests were positive. Undoubtedly the other three cases came directly or indirectly from her infection. She was questioned in regard to her spread contacts but she was ignorant of the names and had no idea of the total number of men with whom she had consorted.

Discussion

These cases illustrate the fact that when a physician makes a diagnosis of syphilis, his duties are only half performed. Certainly, he owes it to the family of the patient to investigate the possibility that they also may be infected. To overlook the possibility of infection in a man's wife is to do her the grave injustice of failing to protect her against the ravages of the disease.

Whether or not an individual physician wishes to act in the capacity of a public health officer in tracing the source and spread of infection in every case of early syphilis, certainly he fails in his obligation to the community and loses prospects of other patients if he does not investigate the source and spread contacts.

2. Infectiousness

Case No. 3. A young married woman came to the office complaining of indigestion, nervousness and weakness. Serologic examination gave positive results. There was no history of syphilis, no history of miscarriage or stillbirths, and no evidence on physical examination of the presence of syphilis. She had one child who was in the late 'teens. A diagnosis of latent syphilis was made and her husband was examined but his test was negative. At the end of her course of anti-luetic treatment, the husband's Wassermann was repeated and was again negative.

Case No. 4. A second married woman was found, in the course of routine testing, to have latent syphilis and serologic tests were made on her husband and on his children by a former marriage, but all of these tests were negative.

Cases No. 5 & 6. There were two men in the series who had aneurysms of the aorta and in both cases the wife had negative serologic tests and one of the men had two children, both of whom had negative serologic tests.

Discussion

These four cases illustrate the fact that late syphilis is not contagious to husband or wife and *in the male* is not transmitted to his children.

Case No. 7. A young woman who had been married two years learned that her husband was taking antiluetic treatment. She had a serologic examination which proved positive. Both she and her husband were treated adequately and continuously over a period of two years. At the end of this time both of them had negative serologic and spinal fluid tests. Tests on the woman were made every six months for two years thereafter and remained negative. She became pregnant and delivered a healthy looking baby whose cord blood was negative. Within three months after birth, the child, having failed to gain weight, looked like a thin old man and congenital syphilis was suspected and confirmed by serologic examination.

Discussion

This case beautifully illustrates the fact that syphilis in women is transmissible to their offspring *even after adequate treatment*. Once a diagnosis of syphilis has been made, she must not only take adequate treatment but she must be treated during every subsequent pregnancy in order to protect the child.

Case No. 8. A young man developed a sore on his lip and the serologic test was positive. He was given, by another physician, "16 injections in the hip and some pills." The serologic test still being positive, he was given six doses of neosalvarsan and five of mercury and developed a hepatitis with jaundice. Four serologic tests were then negative and the patient was told that he was well and was allowed to marry. Three months later, because of publicity given syphilis in a recent educational campaign, the young man had a blood test which was positive. He separated temporarily from his wife in order to protect her against infection. Her serologic test at the time of separation was negative. On the first office visit, routine antisymphilitic treatment was begun and at the end of twelve months his wife was allowed to return to him with the understanding that he was to continue treatment until dismissed. Protected intercourse was allowed under arsenical therapy only. He has continued to carry out treatment and the pre-

cautions outlined and his wife remains free of infection.

Discussion

This case illustrates one of the problems which the physician will face when one marital partner has early syphilis and the other is not infected. It also illustrates a practical solution of the double problem of keeping a marriage intact and preventing the infection of the normal partner. We would not, however, recommend marriage for a young single man with early syphilis until the completion of adequate treatment and a year's probation.

3. Servant Problems

Case No. 9. A young matron, annoyed by the inconvenience of having to allow her maid a certain afternoon off each week for antiluetic treatment, discharged the maid. She hoped to get a servant free of syphilis. She found a well-trained servant who looked neat and clean and she felt certain that this girl would not be luetic. Examination, however, revealed a small chancre at the fourchette and the serologic test was positive. The matron was advised not to employ the girl unless she was willing to keep her segregated for a period of two weeks following institution of treatment. As she was unwilling to do this, she looked for another girl. This one also had a positive serologic test, but was in the latent stage. This girl was employed and the family decided that it was worth while to allow her to take time off for treatment in order to be assured of continued safety from infection.

Case No. 10. In our own household we have made it a point to examine all new servants for syphilis, gonorrhea and tuberculosis. About a year ago we employed a man who had both gonorrhea and syphilis, the latter being in the late primary stage with a chancre not quite healed, but he had already had two doses of an arsenical. For a month he was given separate eating utensils and kept out of the house. His gonorrhea was promptly cleared up by the use of sulfanilamide which can be given along with antiluetic treatment with no untoward results. For four weeks neosalvarsan and bismuth were given concomitantly and the man was considered safe inside the house. His syphilis was treated along the usual routine lines and at the end of six months he wanted to get married. We refused to sign a health

certificate for him so he consulted another physician who must not have examined him as he could have seen the marks of several needle punctures at his elbow. Nevertheless, he was given a certificate to marry. After he had married he brought his wife to live on our place and was promptly told that she, like all servants working in the house, would have to be examined. The examination showed that she had a secondary syphilis with condylomata scattered profusely over the vulva. She also had a gonorrheal cervicitis and was six months pregnant. We refused to allow her to stay on the place and told the man that he must make a choice between staying with us without his wife or living with her. When he learned of her physical condition he decided to divorce her. Within a week after his marriage, he contracted gonorrhea again and was treated with sulfanilamide and cleared up promptly. At the end of another four months he married again. This time he was given a certificate with the understanding that the treatment would be continued and his wife was examined before marriage and was found to be free of any venereal disease. Within two months after the marriage, he had contracted gonorrhea again and the wife was found to have the same infection. He was treated with sulfanilamide, but did not respond as he had before, because of reinfection from his wife who was unwilling to take treatment. It was obviously impossible to protect the family from infection under these circumstances and the man was dismissed.

Discussion

The average employer feels that the presence of syphilis in a servant justifies dismissal. We wish to emphasize the folly of this attitude, since the employer has one out of four chances of finding the next servant similarly affected. Should he get a colored servant without syphilis, he must realize the danger that the disease may be acquired during employment and that he will be then exposed to it in its most infectious stage. A servant under treatment for syphilis is the safest servant to have. The physician must educate his clientele to appreciate this point of view.

4. Multiple Infections

Case No. 11. A woman came to the office with an indurated ulcer in the vaginal vault.

She gave a history of having had a sore on the vulva two or three years previously, and recently had noticed that her hair was falling out in patches. Her serologic test was positive. After several weeks of bismuth therapy, the vaginal ulcer had failed to heal. This cast doubt as to the ulcer being due to syphilis. A Ducrey intradermal test was negative but a Frei test was strongly positive. The use of fuadin along with antiluetic treatment led to healing of the ulcer. When the vagina was clear of sores, a manual examination was made and revealed thickened and tender fallopian tubes. This patient presented evidence of three venereal diseases—secondary syphilis, lymphogranuloma venereum and gonorrhea.

Case No. 12. A man having a urethral discharge indulged freely in alcohol and coitus and was rewarded with acute gonorrheal arthritis. He had a healing penile lesion which was proved by serologic tests to be luetic in origin. After several injections of neosalvarsan and bismuth, there appeared a second small ulcer on the penis and an enlarged gland in the groin. Since the ulcer appeared under treatment, since it was in a different location than the original chancre and since it did not heal under continued treatment, it was decided that this lesion was not syphilitic in origin. Intradermal tests revealed the chancroid nature of this ulcer. In this patient were combined a gonorrheal urethritis and arthritis, sero-positive primary syphilis and chancroid.

Discussion

The diagnosis of syphilis does not necessarily end the diagnostic possibilities in a case of venereal disease. Other venereal infections may accompany the syphilitic infection and should always be looked for. Any patient with gonorrhea is a syphilitic suspect and should be observed over a period of 2 to 3 months for the development of a luetic infection.

5. The Importance of Making a Correct Diagnosis before Instituting Treatment for Syphilis

Case No. 13. A young male Negro believing "his blood was bad" had consulted several physicians who made a diagnosis of syphilis without serologic examination. Over a period of 10 years this patient was treated intermittently for syphilis. A month before he consulted us, he developed a penile ulcer,

and again making his own diagnosis of "bad blood," he applied to a druggist for treatment and was given mixed treatment orally. When he consulted us, a secondary rash had developed and his serologic test was positive. Upon the institution of proper treatment the rash promptly subsided and the patient has continued under treatment without interruption.

Case No. 14. A young white male presented himself for premarital examination. He admitted that 10 years previously he had had a penile ulcer. Without darkfield or serologic examinations, a diagnosis of syphilis had been made and treatment instituted. Treatment was discontinued after a few injections. During the succeeding ten years it never occurred to him that his infection might be of any importance until the question of marriage presented itself. A meticulously careful physical examination including neurologic investigation revealed no evidence of syphilis. Blood serologic and spinal fluid tests were negative. Undoubtedly this man never had syphilis and the physician who labelled him as syphilitic did him a grave injustice.

Discussion

In view of the fact that the treatment of syphilis extends over a long period of time, is accompanied by some discomfort and is not without danger, physicians should be careful not to make a diagnosis of syphilis until adequate proof is at hand. Except in the presence of a chancre when darkfield examinations should be considered as emergency laboratory procedures, there is no great rush in making a diagnosis. One must bear in mind the possibility of false positive reactions and confirm every positive test with either physical or additional serologic evidence of syphilis. Once a diagnosis has been made, treatment should be unrelentingly pursued.

6. Treatment Problems

A. Treatment Reactions

Case No. 15. A young colored woman was first seen by us with arsenical hepatitis. This had resulted from the continuous administration of neosalvarsan and bismuth concomitantly over a period of several months. The advocates of this method contend that simultaneous use of both drugs is more effective than their use in alternation, but they overlook the fact that each of the drugs is toxic and that prolonged administration

without rest will necessarily result in toxic manifestations.

Case No. 16. A young colored woman came to the office after having received sixteen injections for syphilis. Our first injection of neosalvarsan was followed immediately by suffusion of the eyes, flushed face, choking and some difficulty in breathing—typical symptoms of a nitritoid reaction. She was relieved within a few minutes by 0.5 cc. of adrenalin. Subsequent reactions were prevented by changing to a different arsenical preparation. Nitritoid reactions can be prevented also by the injection of 5 to 10 minims of adrenalin 5 minutes before injection of the neosalvarsan.

Discussion

Nitritoid reactions may not occur often if the drug is administered slowly, but when it does occur it is a most frightening experience for the patient, and the physician should be prepared to meet the emergency.

Case No. 17. A white woman with latent syphilis developed an arsenical dermatitis after receiving 19 injections of bismuth and 9 of neosalvarsan. She was treated with glucose intravenously, insulin and parenteral liver extract which we believe to be more effective than sodium thiosulphate. Her dermatitis cleared up within a month. Since she had no involvement of the central nervous system, she was treated subsequently with alternating courses of bismuth and mercury.

Case No. 18. A young woman with asymptomatic central nervous system syphilis developed an arsenical dermatitis following her second injection of neosalvarsan. Because of the central nervous system involvement, a change was made from neosalvarsan to tryparsamide without recurrence of the dermatitis.

Discussion

Arsenical dermatitis is not a frequent occurrence but it is wise for physicians who treat syphilis to know how to combat this serious treatment complication. They must know how to prevent a return of the dermatitis which is bound to occur if trivalent arsenicals are continued.

B. Treatment Continuity

Despite the general opinion, it is possible to get even the ignorant to continue treatment over a prolonged period. Many cases could be cited from our practice where con-

tinuous treatment had been maintained until adequate treatment had been given. A little time spent at the beginning of treatment explaining to the patient the nature of his disease, the dangers of late syphilis, and the necessity for continuing treatment will prevent many a delinquency, as will also the avoidance of pain in making injections. One elderly Negro with central nervous system syphilis has taken 160 injections without missing a week.

Frequently a physician sees a patient whose job takes him from one town to another so that he is unable to take all of his treatment from a single doctor. Under the circumstances, it is essential that one physician assume responsibility for directing the treatment while the other physicians, who may be consulted from time to time, simply carry out his orders. If the patient is given a printed outline which he may check off himself as treatment is given there can be no confusion; or the directing physician may give him instructions for periods of from 6 to 8 weeks in advance in order that the other physicians may know what is to be done. During the past year we had one individual who, when last seen, had completed 69 doses of antiluetic treatment by following the plan suggested.

7. Cardiovascular Syphilis

Case No. 19. A white male, 52 years of age, had had a chancre of the lip in his early twenties. At this time methods of diagnosis and treatment were in their infancy and treatment was most inadequate according to our present standards. His treatment consisted of mercury rubs and after the introduction of neosalvarsan he was given a short course of this drug each year. At the age of 40 he began to have an increase of blood pressure followed by a dilatation of the aorta and aneurysm formation. To all outward appearance he was a strong healthy man but he dropped dead suddenly as a result of rupture of the aneurysm.

Among the cases of syphilis seen during the past year were three additional cases with aneurysm of the aorta. One disregarded our admonition as to the danger and died suddenly while doing strenuous labor. Another, after a year and a half of invalidism due to his aneurysm, died of complicating bronchopneumonia. The third patient had a huge aneurysm at the age of 32.

Discussion

If one would *prevent* cardiovascular syphilis, one must treat early syphilis adequately. But if one would *treat* cardiovascular syphilis, one must treat it not as in the case of early syphilis but with the constant thought in mind that too radical treatment can bring on death as surely and often more quickly than the disease itself. In the treatment of cardiovascular syphilis, the treatment problem is one of individualization and not of routine. Often digitalis is more important than any antiluetic drug and in all cases preparatory treatment with a heavy metal must be given before the powerful arsenicals are administered. Even then the arsenicals should be given in small doses since there is no hope of "cure" but rather a desire to arrest progression.

8. Central Nervous System Syphilis

Case No. 20. A young white man had a chancre twelve years ago and a serologic examination at that time was positive. He was given twenty doses of neoarsphenamine and forty of a heavy metal. At the end of this period of sixty weeks his serologic test was negative but a *spinal fluid examination was not made*. A year after cessation of treatment his serologic reaction had become positive, and still a *spinal fluid examination was not made*.

He was given sixteen to twenty injections each of neoarsphenamine and bismuth, which treatment again rendered his serologic test negative. *At this time a spinal fluid examination was not made*. Seven years after his original infection the serologic reaction was again positive. *At that time a spinal fluid examination was not made*. He was treated for one year with alternating courses of neoarsphenamine and bismuth and at the end of that treatment period, a spinal fluid examination *was made* and the result revealed syphilis of the central nervous system. By this time the patient showed definite signs of paresis.

Case No. 21. A young man, 27 years of age, was seen for the first time during a violent convulsion. Physical examination revealed only a loss of weight and an internal strabismus. Repeated serologic tests were positive and spinal fluid examination revealed the involvement of the central nervous system.

Case No. 22. An Italian female, 55 years

of age, had been treated elsewhere for a period of two years and at the end of treatment her serologic tests were negative *but* a spinal fluid examination was not made. A year later when we first saw her she was having attacks of giddiness with brief periods of unconsciousness, short intervals of disorientation, loss of memory, lightning pains, exaggerated knee jerks, and Argyll Robertson pupils. Serologic tests were negative but spinal fluid examination showed definite evidence of syphilitic involvement of the central nervous system.

Discussion

These three cases are presented to illustrate the necessity of making a spinal fluid examination on all patients with syphilis. One should defer the test until after six months of treatment in order to avoid introducing the infection into an uninvaded nervous system. But in late syphilis one should consider the spinal fluid examination as necessary as a serologic examination and both should be made at the same time. No patient should be dismissed from treatment and considered "cured," irrespective of the serologic reaction, until the spinal fluid has been examined.

SUMMARY

1. An analysis of 362 serologic tests in private practice showed an incidence of 57 positives. Of the white patients, 6 per cent and of the colored 27 per cent were positive.
2. Fifty per cent of the patients were seen in the latent stage and the diagnosis was based entirely on serologic findings.
3. The public is not educated to realize the seriousness of genital lesions. Less than 2 per cent in this series were seen in the seronegative primary stage.
4. The advantages of epidemiologic investigation have been illustrated by case reports.
5. Late syphilis in a husband is not transmissible to wife or child but a woman infected with syphilis may infect her unborn child irrespective of the amount of past treatment or the presence of a negative serologic test.
6. Servants with syphilis should not be dismissed but should be put under treatment.
7. A patient with one venereal disease may have another. Every case of gonorrhea or chancroid is a potential case of syphilis.
8. Once treatment has been started it

should be continued relentlessly. It is essential that the diagnosis be established before the institution of treatment.

9. Continuous concomitant treatment is dangerous.

10. The physician should be able to recognize treatment reactions, and should know what to do in case they occur.

11. The chief cause of cardiovascular syphilis is untreated or inadequately treated early syphilis. The treatment of cardiovascular syphilis is an individual problem.

12. Spinal fluid examinations should be made routinely at the end of 6 months of treatment in early syphilis and at the time a diagnosis is made in late syphilis.

CONCLUSION

The eradication of syphilis cannot be accomplished without the cooperation of the private practitioner. Syphilis campaigns will bring patients to his office but it is up to him to understand how to treat them.

DISCUSSION

Dr. Merle Smith (Parrish)—The essayists have shown in their series of cases that one patient out of 6.8 was infected with syphilis and that it is not sufficient to give a "shot in the arm or hip" at stated intervals. There must be an individualization of the patient based upon a careful physical examination to evaluate the risk; then a urine specimen should be tested for albumin at each treatment and a careful inquiry made as to any reaction which may have followed the last treatment, to watch for toxic manifestations. At times it may be necessary to change the drug being administered to one less effective, but also less toxic to that particular patient.

There is no doubt that our only method of discovering the latent case is to make a routine Wassermann. But such evidence alone does not warrant the long and painful series of treatments unless clinical pathology is demonstrated. A negative test in the face of clinical findings should also be disregarded, repeated and a spinal fluid Wassermann taken. I do not have much faith in the provocative test. Reports have been made that one patient in three is able to overcome this infection and present a negative Wassermann without therapy being instituted.

In my practice, I have seen only one patient with a chancre and two with secondary lesions during the past two years. During the same period 114 tests on white males gave 3 positives; 72 on white females, 6 positives; 47 on colored males, 16 positives; and on 35 colored females, 15 positives. Comparing the incidence with that of the essayists, the white rate is lower and the colored rate a little higher, but astonishing to relate the women have the higher percentage of infection.

Dr. Morris Fishbein recently made the remark that investigation of the lowering of the incidence of lues in the Scandinavian countries in which

police powers were used as control methods was no greater than that experienced in this country and England where education was the compelling force. We cannot expect a great deal of progress as long as doctors are delinquent in exhibiting to their patients the folly of expecting a cure in "so many injections" or with a negative blood test after several injections. Neither can we expect individualized treatment when clinicians or county health officers "inject" 85 to 125 patients in a single afternoon and then see the patient no more until the next session.

The aged or the patient debilitated by degenerative lesions is better off without luetic treatment than to die from too extensive therapy. For this patient the following will be of benefit and at the same time avoid damage:

Bichloride of mercury .....	.065 to .13
Potassium iodide	16.
Syrup sarsaparilla comp. qs	180.

M. et sig.: 4 cc. t. i. d. p. c. in water

Perhaps improvement in the general condition may allow small and cautious doses of bismuth and later neosalvarsan. A study of the essayists' case reports applied to our practice will give good results and facilitate the handling of these problems.

SYPHILIS IN PRIVATE PRACTICE*

THE DIFFERENTIAL DIAGNOSIS OF VENEREAL DISEASES

By

CHARLES R. LAFFERTY, M. D.
Montgomery, Ala.

At the present time there is so much emphasis on the treatment of venereal diseases, especially syphilis, that I wonder if many medical practitioners have not lost sight of the value of a careful differential diagnosis of pudendal lesions. The large medical centers have recognized the need for a more accurate diagnosis of the various lesions and have established diagnostic venereal clinics. After careful clinical and bacteriologic study at these clinics, the etiology of the lesion is established and the patient is referred to the proper group for treatment.

I had the opportunity to examine and study approximately 1,200 patients with venereal lesions in the diagnostic clinic at the Louisiana State Charity Hospital. Two observations are especially noteworthy, namely, the low percentage of lesions that were caused by *Treponema pallidum*; and the time and material wasted because of incor-

rect diagnosis before the patients reached the clinic.

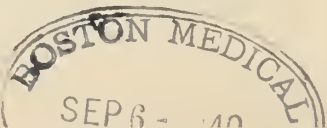
In 1937, a report on 620 of the above mentioned patients was made. The findings were most interesting. Syphilis was the cause of only 16.1 per cent of pudendal lesions; chancroid 24.3 per cent; lymphogranuloma inguinale, which headed the list, 24.8 per cent; granuloma inguinale 5.4 per cent; non-venereal lesions 12.4 per cent; and undetermined lesions 10.5 per cent. I have seen numerous instances of patients coming into the clinic who had been treated for syphilis for several months, despite the very obvious progression of the primary lesion. Another error in treatment, due to incorrect diagnosis, was the incision of buboes thought to be due to a chancroid infection but which, in reality, proved to be due to lymphogranuloma inguinale and which should not have been lanced but completely excised.

The correct diagnosis of the causal factors in venereal lesions is obviously of equal importance to the physician and the patient. Its value to the former lies in outlining an appropriate course of treatment already proven to possess a maximum therapeutic effect without time consuming and expensive therapeutic tests. The true facts of the case should be revealed to the patient. We must not lose sight of the great suffering and humiliation endured by the patient with a non-venereal lesion. Many physicians regard pudendal lesions as the unmistakable sign of venereal disease. The exclusive consideration of syphilis as the causative factor of such lesions has been regarded as so important that the search for *Treponema pallidum* has completely overshadowed any other diagnostic procedure in the treatment of pudendal lesions. This mistake must be considered as the principle reason for the slow development of knowledge regarding other diseases of the pudenda, although the clinical picture has often been described.

Even in the hands of the most experienced specialists, the clinical methods of differentiating the various pudendal lesions are often inconclusive. In but a few instances is it possible to obtain a history of infectious intercourse. Most patients are unable or unwilling to give an exact account of their sexual activities before infection. If we should rely on the anatomic diagnosis we shall again fail as only a few lesions are typical. We should look to the laboratory

*Read before the Association in annual session, Montgomery, April 19, 1939.

From the Department of Pathology, Saint Margaret's Hospital.



for confirmation in these cases, as clinical pathological methods have proven to be successful and reliable.

The determination of the etiologic agent must be attempted through the use of diagnostic bacteriology, immunology and histopathology; that is, the examination of stained smears and cultures made from the exudate of the lesion, skin tests, complement fixation tests and examination of biopsy specimens. A combination of these methods will determine accurately, in a large percentage of cases, the etiology of the lesions and often will lead to the discovery of mixed infections.

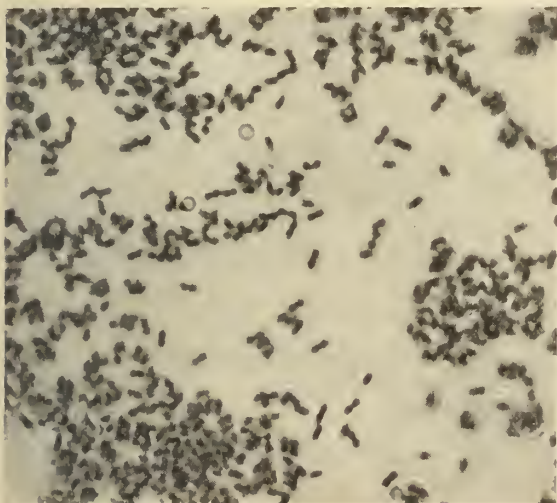


Plate I

Gram-negative, capsulated diplococci isolated in a pure culture made from a lesion of granuloma inguinale.

The primary stage of syphilis is characterized by a comparatively painless ulcer with a brownish-red indurated area. The absence of a large amount of pus and the presence of small, indolent, firm glands in both inguinal regions, with a definite history of infectious intercourse, form the criteria for making a clinical diagnosis of lues. A diagnosis should not be final without substantiation by the following laboratory procedure: The superficial part of the lesion is cleansed by a gentle swabbing with saline and the exudate is drawn from the base of the ulcer. This material is then examined under dark-ground illumination and smears are stained by one of the silver impregnation methods, such as the Fontana. The latter is satisfactory in general for physicians in private practice. No elaborate equipment is necessary. The physician can examine the smear

at his convenience and he has a permanent proof for his diagnosis. In the silver impregnation smears, the organisms will appear as a dark brown or black spiral against a yellowish-brown background. The treponema may vary considerably in length but has a typically tightly-coiled corkscrew appearance with a flagella-like tip at either end. It must be emphasized that some experience is necessary in order to differentiate the treponema from other spirochetes found in the smears. If the chancre is old, partially healed or has been treated previously, one may not be able to demonstrate the trepo-

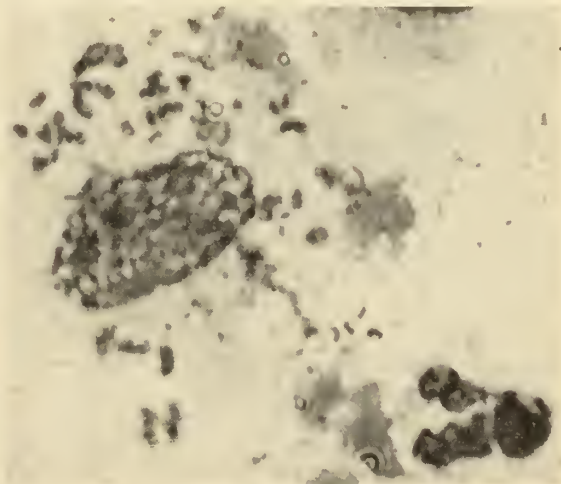


Plate II

Donovan bodies in a monocyte. Smear was made from the exudate of a granuloma inguinale lesion.

nema. The inguinal glands are usually enlarged and the organism can be found in the aspirated material from the luetic bubo. In lesions of some duration, serologic reactions and biopsies are of great importance. Extending over a period of twelve weeks, several serologic tests should be made on the blood. The reaction of the tissue to the treponema is characteristic. There is proliferation of the endothelial cells, the perivascular round cell infiltration and the appearance of giant cells.

It seems to be of little doubt that Ducrey's bacillus is responsible for soft chancre and for the buboes associated with the primary lesion. The principal clinical feature of this infection is a painful ulceration of the skin and mucous membrane of the genitalia. The ulcers are of irregular contour and covered with a copious exudate. In the male, ingui-

nal glands are painfully swollen with erythema of the overlying skin and often fluctuate. The laboratory diagnosis of this disease is most successful. In pure cases, a diagnosis can be made in two different ways: the demonstration of the causative organisms in the lesion or the regional lymph glands; and the diagnosis of the specific immunity of the organism to the disease by specific skin reaction. The gram-negative streptobacillus of Unna-Ducrey, which is the causative agent of this disease, is often present in large numbers in the smears made from the primary lesion or pus from the buboes. In old lesions with secondary infection, a specific skin test developed by Demelcos is of great diagnostic value.

In 1925, Frei reported the discovery of a specific intracutaneous test for the diagnosis of lymphogranuloma inguinale. This has been a means for differentiating this venereal disease from others. The early manifestations present a rather typical clinical picture which is characterized by the regular appearance of severe constitutional symptoms (fever, headaches, and swollen inguinal glands). In the late stage of this disease, we may find elephantiasis of the pudenda and in females, particularly, it often involves the genito-anorectal tissue with production of a stricture.

Granuloma inguinale is a chronic infective granulomatous condition practically confined to the Negro and of common occurrence in the tropics and the southern part of the United States. The lesion is seen in the anal and genital regions, commonly commencing on the labia and penis. The most characteristic laboratory finding is the appearance in the discharge of Donovan bodies in the large mononuclear cells. They represent ovoid or round capsular bodies which stain pink with Giemsa or Wright stain and show fine dark rod-shaped bacilli or occasionally two small gram-positive diplococci in the center. The typical Donovan body is not always easily found, but the appearance of so-called "platin bodies," homogeneous round bodies about the size of a red blood corpuscle in the plasma of large monocytes, and the presence of small rod-like organisms often found in thick bunches in the vacuoles of the monocytes are as reliable as the finding of Donovan bodies.

Vincent's ulcer of the pudenda is a destructive, ulcerative lesion associated with

the presence of Vincent's organisms commonly found in Vincent's angina of the mouth. This is a well-defined clinical entity which can be diagnosed with comparative ease by smear examination. Clinically, these lesions present a very painful, shallow and often multiple ulceration of the skin and mucous membrane of the genitalia, without buboes. The ulcers spread rapidly into the deeper layers of the tissue rather than over a wide area. In contrast to secondary spirochetal infections the exudate of a Vincent's ulcer contains only few leukocytes and rarely any other bacterial flora.

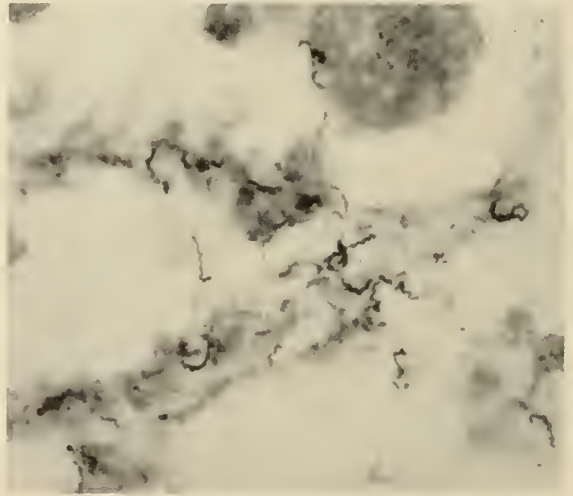


Plate III

Treponema pallidum in a section of liver from a syphilitic fetus stained by Levaditi's silver impregnation method. Smears from a primary lesion stained by the Fontana method give a similar picture.

This disease is diagnosed by staining smears made from the exudate with gentian violet or Fontana stain and finding Vincent's organisms.

Clinically the non-venereal infections show varying features, some consisting of small ulcers or pustules, and others being large hypertrophic infected granulomas. One of the most common statements frequently noted in the history of patients with these lesions is that of trauma during intercourse which usually leaves a slightly painful erosion on the skin or on the mucous membrane of the penis or the vulva. Sometimes the use of strong chemicals, such as concentrated iodine solution or carbolic acid, for preventive purposes could be elicited. The diagnosis in these cases should be guided by

two principles: first, the exclusion of every possibility of venereal infection; and, second, the establishment of the causal agent in the lesion. Posttraumatic infections with pyogenic organisms seem to be the most important source for non-specific pudendal lesions. Personal uncleanness may be placed next in importance for most of the spontaneous infection. If the lesion is of long duration and there is no specific cause found, a biopsy should be examined as the lesion may be carcinomatous.

CONCLUSION

The importance of a careful differential diagnosis of pudendal lesions by the physician in private medical practice is emphasized. A summary is made of the most useful clinical and laboratory methods of diagnosing venereal lesions.

REFERENCES

- D'Aunoy, R. and von Haam, E.: The Diagnostic Value of the Frei Reaction in Lymphogranuloma Inguinale, *Am. J. Clin. Path.* 6: 529, 1936.
Goldhorn, L. B.: Concerning the Morphology and Reproduction of *Spirocheta Pallida*, and on Rapid Method for Staining the Organism, *J. Exper. Med.* 8: 451, 1906.
Sanderson, E. S.: The Cultivation of *Hemophilus Ducreyi* and Preparation of an Antigen for Intracutaneous Diagnosis of Chancroidal Infection, *South. M. J.* 30: 147, 1937.
Wright, William T., Jr.: Vincent's Infection, *J. Am. Dent. A.* 17: 1294, 1930.
Von Haam, E., and Lafferty, Charles R.: Etiology of Venereal Lesions, *New Orleans M. & S. J.* 89: 683-690, 1937.

Treatment of Malaria.—If the examination of the blood in any malarial patient being treated with quinine shows that gametocytes are present, it will be necessary to combine with quinine treatment the administration of plasmochin. This drug should be administered in such cases after the symptoms of the acute paroxysm have ceased and it should be given in doses of 0.01 Gm. (1/6 grain) to an adult, two or three times a day, or the same dose should be given twice a week until the gametocytes have disappeared. The writer believes that it is good practice, where it is impossible to obtain blood examinations, to give plasmochin as a routine treatment in cases treated with quinine, on the supposition that gametocytes may be present. Toxic symptoms have not followed the administration of plasmochin in this manner and one does prevent the infection of mosquitoes and thus prevents further transmission to man.—*Craig, Texas State J. Med., July '39.*

CHRONIC BACK PAIN*

By
PAUL W. SHANNON, M. D.
Birmingham, Ala.

Nothing would please me more than to be able to give you a solution to the age-old problem of chronic back pain. This, however, I cannot do. Nevertheless, I wish to pass on to you some thoughts and facts on the subject that are pertinent, though not entirely original on my part. Due credit must be given to a number of individuals, both as pathologists and clinicians, beginning with Schmorl and terminating with the work of Williams of Dallas, Texas. My years of experience may be limited but I am convinced that, when we appraise our results in the diagnosis and treatment of chronic back pain, we are compelled to admit that there is much to be desired. The subject matter to follow needs heralding because it is anatomically, kinesiologically, and pathologically sound.

Since the time is limited, I shall attempt to give only a general picture. We shall assume that back aches due to other than bone and joint conditions have been eliminated. Neither are we interested in congenital anomalies, the fractured, infected, or scoliotic back. Nor does our subject include the acutely strained back that soon becomes well and remains so. Rather, we are dealing with the chronic back that perhaps has never received acute trauma, but insidiously began causing disability; also with the chronic back the onset of which was initiated with trauma, and which, in the ensuing months or years, failed to become well.

Permit me then to call your attention to the intervertebral disc and its associated structures as the site of pathology in at least a very high percentage, if not all, of these cases to which we have limited ourselves today. The ruptured nucleus pulposus of Mixter and Barr is closely associated; it is a true and deserving entity, but also excluded from this paper.

The disc furnishes the intervertebral support and keeps the vertebral bodies separated from their adjacent ones; therefore, it also maintains the articular facets in their proper relation with each other. It is made up of the semi-gelatinous nucleus pulposus

*Read before the Association in annual session, Montgomery, April 18, 1939.

which is limited and contained by the cartilaginous plates and the annulus fibrosis. With destruction of the disc, either acutely or chronically, the intervertebral space becomes narrowed. This allows the vertebral body and its inferior facets to settle on the next body and its superior facets. The result is a subluxation of the joints and a constriction of the spinal foramina of which the facets are a part. The nerve may or may not be compressed. The part is then subject to degenerative arthritis as are all mechanically altered joints. All of the intervertebral spaces are susceptible to these changes, but the lumbar spine is particularly so. Of these the lumbosacral joint is the most frequently involved because it carries a heavier load and is structurally weaker as the apex of the lumbar lordosis. In the chronic postural type, one frequently sees posterior narrowing of several discs.

In the past, much significance has been placed on the roentgenographic appearance of spurs and sharpened margins on the sacroiliac joints and vertebral bodies. Many of these patients have segmental pain, but anatomically the nerve roots do not come close to these regions. It is much more logical to assume that these changes are secondary to abnormal mechanics elsewhere.

In order to diagnose and treat lesions of the lumbosacral joint, one must be familiar with the mechanics of this area. Due to the lumbar lordosis, the entire weight of the trunk is transmitted to these discs, and particularly to the lumbosacral one, as a forward shearing force. Anterior displacement is prevented by a locking of the facets of the fifth lumbar vertebra and those of the sacrum. Bending the spine will cause the disc to be compressed in that direction and widened on the opposite side; and so hyperextension, or an increased lordosis, will narrow the diameter of the foramen. Because of the plane and the arrangements of the facets of the sacrum and fifth lumbar, there is a tendency for posterior displacement of the latter when the disc is compressed. This mechanical deformity has been called spondylolisthesis, but is undoubtedly a mechanical derangement secondary to disc and facet pathology.

The musculature of the area plays an extremely important role. The erector spinae or sacrospinalis group, when contracted, lifts the posterior half of the pelvis, increases the lumbar lordosis and exerts a compressive

force on the posterior margins of the discs. Antagonistically, the anterior abdominals lift the front of the pelvis and decrease lordosis. The gluteus maximus and hamstring muscles, when contracted, lower the posterior half of the pelvis and, with the hip joints as an axis, lift the anterior half. Thus they aid the abdominals. The hip flexors, except the ilio-psoas, when contracted lower the anterior half of the pelvis and so aid the sacrospinalis group, and increase lordosis. The ilio-psoas muscle, due to its muscular attachments, may act to increase or decrease lumbar lordosis. When standing, it is increased; and with hips flexed 90 degrees, it is decreased.

It should be mentioned here that lumbar lordosis, as we see it today, is in reality a deformity which has structurally weakened the spine; however, being so universal, it is accepted as normal. It has appeared due to overdevelopment of muscles in assuming the upright position and biped progression; namely, the sacrospinalis and the hip flexors. In the female it has often been exaggerated by high heel shoes and the mistaken thought that a hollow back and prominent buttocks are conducive to glamour.

A careful and detailed history is essential. It gives an insight as to the degree of involvement, and frequently explains the mechanism of the onset. It may or may not differentiate as to whether the etiology was poor posture plus trauma, or if trauma was the sole cause. Both the acute and the chronic or postural type will complain of pain in the small of the back with or without radiation to the legs. When present, it is usually unilateral, but occasionally may be bilateral. The onset in the acute type is usually sudden, and occurs in young adulthood. In the chronic, it comes on insidiously and more often in early middle age after children, obesity, and relaxation of the muscles. The latter is much more common in the female. Where trauma is an exciting factor, a good history will reveal that the injury occurred when the sacrospinalis extended the spine. This is true when the window is raised, the pain occurring as one throws the chest posteriorly for leverage in order to get it open completely. The same is true on lifting a heavy object from the floor. In swinging a golf club, it is the "follow through" and hyperextension of the back. In tennis, it is the back swing of the serve. Perhaps postpartum back aches

are due to acute compression through the same mechanism in labor.

I know that you are familiar with the physical findings, namely, tenderness, muscle spasm, limitation of motion, limitation of straight leg raising, perhaps a list, and occasionally an absent ankle jerk or disturbances of extremity sensation. Hyperextension of the back is particularly painful. In the very acute cases, where a disc has been acutely compressed, the normal lumbar lordosis may be lost, and even reversed, as a protective mechanism. Occasionally, the patient is flexed 90 degrees and cannot straighten up. In the less acute or postural type the torso is carried posteriorly, the head forward, the chest flat, the abdomen rounded and protruding, and the lumbar lordosis increased. This group can be divided into two types constitutionally—both of whose increased lumbar lordosis is due to the same kinesiological action. The so-called "round back" is found in those with the esthetic constitution, and presents a long thin torso with general visceroptosis, a long gentle lordotic curve, long hands and feet, loosely constructed joints, and poor muscle tone.

The "round-hollow back" presents a short torso with an acute lordotic curve; and such an individual is short and heavy in stature, strong, has tightly constructed joints, and good musculature.

The pathology is essentially the same in both the acute and postural types, except that in the latter group, the compression is often not so marked; at the same time, more discs are frequently involved. There are degenerative changes of the nucleus pulposus and annulus fibrosis; the articular facets are ill-fitted, resulting in degenerative arthritis; and at times there is impingement of the foramina on the nerve roots.

Roentgenographically, one can see the reduction of joint space either in toto or posteriorly, and the subluxation of the facets with reduction of the size of the foramina with the resulting hypertrophic changes.

In most x-rays taken in the usual manner, the lumbosacral joint space is not well visualized. This is due to the fact that a special and very careful technic is necessary so that the perpendicular ray penetrates the joint squarely. In centering the tube, one must allow for the lordosis and sacral tilt. Permit me to emphasize the fact that inadequate x-rays are absolutely useless.

The treatment of these cases is both conservative and surgical. The results of both are gratifying, but radical measures are indicated only after failure of conservative ones.

In the conservative regimen, one must use judgment in selection, depending upon the magnitude of pathology and the severity of symptoms. All treatment is based upon (1) rest of the involved part, and (2) widening of the posterior half of the intervertebral space or spaces. This can be done and so demonstrated by x-ray. Both principles may be somewhat accomplished by bed rest with the hips and knees flexed at ninety degrees. Traction on the thighs in this position may aid in enlarging the foramina. Occasionally relief is obtained when the knees are strapped tightly to the abdomen, or a plaster jacket may be applied with the lumbar spine flexed. This is most easily accomplished by having the patient bend forward approximately forty degrees and rest his elbows on a table that is in height about the level of the last rib. When the patient stands erect with the jacket applied the lumbar flexion is maintained. It is often necessary to apply the cast and also use bed rest as described.

After a longer or shorter period of time a brace may be fitted. The usual appliance of Taylor design too frequently fails. Williams has constructed a brace which I use almost exclusively, and which cannot be recommended too highly. The principle is to decrease lordosis, and this is accomplished by three-point pressure, namely, the sacrum and mid-dorsal region posteriorly and the lower abdomen anteriorly. It is adjustable on hinges. In the aged or in the very mild cases, a corset may be substituted, but with less efficiency. Occasionally, when the referred pain is confined to one leg, a one-half inch raise of the opposite heel will open the foramen wider and give relief.

In both the acute and postural types the heel should be lowered to a minimum for obvious reasons. By all means, both should be given corrective exercises to decrease the lordosis. This alone will sometimes cure the postural type. Active stretching exercises are given for the tight and over-powerful sacrospinalis and hip flexors; and active strengthening exercises for the development of the weak abdominals, gluteals, and hamstrings.

If the above regimen is carefully applied, many will become well and a very high percentage will be vastly improved. A few will fail, particularly the individual whose x-rays show a complete loss of the disc and who clinically has good posture with a flat back. If there is no nerve root compression as evidenced by segmental pain, a simple spinal fusion is indicated. If there is impingement and leg pain, facetectomy of the joint on one or both sides, plus spinal fusion, is indicated at one undertaking. Here simple fusion will almost always result in failure.

In conclusion, one must not forget the possibility of co-existing infection and general ill health. All foci of infection should be removed. I believe that, where there are altered joint mechanics, encapsulated pus will exaggerate, or even precipitate, symptoms. However, pain in the back and extremities is no indication for promiscuous removal of teeth, tonsils, gallbladder, etc.

REFERENCES

Compere, E. L., and Keyes, D. C.: Roentgenological Studies of the Intervertebral Disc. A Discussion of the Embryology, Anatomy, Physiology, Clinical and Experimental Pathology, *Am. J. Roentgenol.* 29: 774, 1933.

Ghormly, R. K.: Low Back Pain. With Special Reference to the Articular Facets, with Presentation of an Operative Procedure, *J. A. M. A.* 101: 1773, 1933.

Hadley, L. A.: Subluxation of the Apophyseal Articulations with Boney Impingement as a Cause of Back Pain, *Am. J. Roentgenol.* 33: 209, 1933.

Johnson, R. W., Jr.: Posterior Luxations of the Lumbosacral Joint, *J. Bone & Joint Surg.* 16: 867 (Oct.) 1934.

Mixter, W. J., and Ayer, J. B.: Herniation or Rupture of the Intervertebral Disc into the Spinal Canal. Report of Thirty-Four Cases, *New England J. Med.* 213: 385, 1935.

Mixter, W. J., and Barr, J. S.: Rupture of the Intervertebral Disc into the Spinal Cord, *New England J. Med.* 211: 210, 1934.

Ober, F. R.: Back Strain and Sciatica, *J. A. M. A.* 104: 1580, 1935.

Smith, A. De F.: Posterior Displacement of the Fifth Lumbar Vertebra, *J. Bone & Joint Surg.* 16: 877 (Oct.) 1934.

Williams, P. C.: Reduced Lumbosacral Joint Space. Its Relation to Sciatic Irritation, *J. A. M. A.* 99: 1677, 1932.

Williams, P. C., and Wigby, P. E.: A Technique for the Roentgen Examination of the Lumbosacral Articulation, *Am. J. Roentgenol.* 33: 511, 1935.

Williams, P. C., and Yglesias, Luis: Lumbosacral Facetectomy for Post-Fusion Persistent Sciatica, *J. Bone & Joint Surg.* 15: 579 (July) 1933.

Williams, P. C.: Lesions of the Lumbosacral Spine. Part I. Acute Traumatic Destruction of the Lumbosacral Intervertebral Disc, *J. Bone & Joint Surg.* 19: 343 (April) 1937.

Williams, P. C.: Lesions of the Lumbosacral Spine. Part II. Chronic Traumatic (Postural) Destruction of the Lumbosacral Intervertebral Disc, *J. Bone & Joint Surg.* 16: 690 (July) 1934.

DISCUSSION

Dr. S. Ralph Terhune (Birmingham)—It is a pleasure to be called on to discuss Doctor Shannon's excellent paper. The treatment of the chronic low back seems to have advanced more in the past few years than ever before in the history of modern medicine. And now we have progressed beyond the stage of condemning almost every person with a back ache to a diagnosis of arthritis or sacro-iliac strain. The roentgenologists still give us too many reports of "moderate arthritis with spur formation at the inferior margin of the sacro-iliac joint." Recently, we are learning to discount the great majority of these diagnoses as having nothing to do with the cause of the patient's symptoms. The inclusion of intraspinal protrusion of a ruptured intervertebral disc as a cause of low back pain and sciatica has given many orthopedic surgeons a "headache" by still further confusing the already baffling question of the cause of the patient's backache.

Following Mixter and Barr's reports, the excision of protruding discs threatened to become the latest surgical fad. Now, Doctor Shannon, following the work of Williams, adds to our hope for fewer operations by pleading for a thorough trial of conservatism in these cases. It has taken only a few patients who have had surgical excision of a protruding intervertebral disc to wander into my office complaining of the same back ache they had before the operation to make me agree with Doctor Shannon that we should not get too far away from conservatism. As you have heard, it has been definitely proven that impinging facets may be the offender in a great many of these cases. Subsequent facetectomies have had to be done to quite a number of post-operative disc cases. Williams' work has so simplified the management of most low back pain cases that our former hard bed treatment, with fracture boards and hyperextension frames under the poor suffering patient, appears ridiculous.

All of you must realize how many back ache cases, particularly in women, are postural in origin. We can't complacently call all of them just "constipated female bipeds with the back ache," and let it go at that, nor can we assign very many to the gynecologist or general surgeon for intra-abdominal surgery. We all see too much pelvic surgery done as a treatment for a chronic back ache. At some of our charity clinics, it seems that the orthopedic department is the dumping ground for a great many "hysterec-tomized, theelinized, or antuitrinized" women who are still complaining with the back ache. The prominent buttocks, the big belly, and the hollow back must be corrected and hyperextension is *not* going to do this.

Spine flexion is the answer and the point in the treatment of these cases. Williams' flexion three-point pressure brace definitely accomplishes this postural improvement. However, exercises

to maintain this improvement are highly essential. Spinal and anterior thigh muscles must be stretched, abdominal and posterior thigh muscles must be contracted. "Hit or miss" exercises for so-called "strengthening the weak back" as are advocated in many textbooks may do more harm than good. The four simple exercises as outlined by Williams are definitely to the point and should become a daily ritual with these patients.

Again, I add my plea to that of Doctor Shannon: Be conservative in the management of low back pain cases.

Lacerations of the Scalp.—Lacerations of the scalp not associated with fracture should be debrided and sutured preferably within ten hours, the sooner the better, provided the patient's general condition permits. The procedure should be done in the operating room with good light, proper facilities, and with the scalp well shaved. It should not be done in a hit-or-miss manner in the dressing room or office; otherwise a depressed fracture line containing incarcerated hairs or other foreign bodies might elude discovery and be followed by sepsis. This is also advised so as to prevent the massive dissecting, suppurative cellulitis too often seen. Severely traumatized scalp edges and portions of scalp flaps should be excised together with the damaged galea and pericranium. By extension of the wound, or counterincisions, the defect in the scalp in most cases can be closed. The scalp incision or incisions should be loosely closed with a few vertical mattress sutures (Stewart), with a Dakin tube size rubber drain one-half inch long, and with a lateral eyelet sutured in either angle of the wound barely going through the scalp, so placed that it will not come in contact with bone surface or margin. These are removed in forty-eight hours. During debridement the wound is sponged with Dakin solution sponges and a wet dakinized gauze dressing is applied and changed daily, without tight bandaging, until the wound is healed. One can determine then whether a suture should be removed here and there, and whether the wound should be gaped to allow escape of fluid accumulation.

In cases of partial avulsion, where dirt and grit have been ground into the outer table of the skull, the debris should be scrubbed off with a stiff brush, or gently scraped off with a curet, washed away, and removed by suction. The scalp should be sutured quite loosely with ample provision for escape of serum, which otherwise collects.

It may seem puerile to discuss the above points, but it is a sad situation to see a patient remain in the hospital for many days, or even lose his life

as the result of inattention to such simple and apparent details.

In complete avulsion of a portion of the scalp, the scalp edges should be excised gradually in a circumferential manner, bleeding from the margins controlled with skin clips as excision is carried out, and the entire area grafted with Thiersch grafts. All of these things can be done with local anesthetic solution made from novocain and suprarenin tablets (tablet A).

Lacerated scalp wounds not sutured within forty-eight hours should probably be cleaned by shaving, removal of foreign bodies, and packing the wound loosely with gauze wet in Dakin solution, with a copious wet Dakin gauze dressing. Careful and frequent dressings with loose bandage prevent an otherwise serious infection of the scalp. If a circular tight bandage is applied, the scalp above the circular bandage becomes very edematous, thus favoring extension of infection.—*King, N. Y. State J. M., July 15, '39.*

Rabies.—The incidence of rabies among animals in Birmingham, Ala., has steadily risen during the past ten years. The increase is actual and is based on the larger number of animals examined each year, as well as a steady increase in the percentage of positive observations. The problem appears to be largely one of unconfined, home owned dogs (pets); very few unidentified animals are received for examination. The year's total of rabid dogs approximates 1 per cent of the known dog population. This figure is largely made up of dogs submitted for examination by white owners and would probably be doubled if Negroes were equally cautious.

During a period of ten years, 5,206 vaccine treatments were administered to human beings. While Negroes constitute 40 per cent of the population, they submitted only 12.5 per cent of all rabid animals, took only 10 per cent of all treatments and, like the white population, suffered only a rare mortality. Figures for the state as a whole substantiate these data. There appears to be little relation between mortality from rabies and the administration of vaccine.—*Denison and Dowling, J. A. M. A., July 29, '39.*

<p>NEXT MEETING OF THE ASSOCIATION</p> <p>BIRMINGHAM</p> <p>APRIL 16-18, 1940</p>

THE JOURNAL

of the

Medical Association of the State of Alabama

Editor-in-Chief

FRED W. WILKERSON Montgomery

Associate Editors

M. Y. DABNEY Birmingham

W. D. PARTLOW Tuscaloosa

J. N. BAKER Montgomery

DOUGLAS L. CANNON Montgomery

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

Office of Publication

519 Dexter Avenue.....Montgomery, Ala.

Subscription Price.....\$3.00 Per Year

August 1939

PHYSICIANS HONORED

Citations voted by the Association in recent annual meeting to four of its members (one posthumously) and a distinguished adopted son for original research beneficial to mankind have been awarded Dr. Tom Douglas Spies, Cincinnati, for studies in the etiology, symptomatology and treatment of pellagra and allied nutritional diseases in Jefferson County, Alabama, in 1935-1939; Dr. George H. Searcy, Tuscaloosa (to Mrs. Searcy), for diagnosing and describing the first outbreak of pellagra in the United States in 1907; Dr. Luther L. Hill, Montgomery, for first successfully suturing a heart wound in the United States in 1902; Dr. Emit L. McCafferty, Mount Vernon, for early attempts at production and transmission of pellagra in 1907-1908; and Dr. Seale Harris, Birmingham, for first recognizing and describing a new disease entity, hyperinsulinism, in 1923.

The citations of Doctors Spies and Harris were presented at a meeting of the Jefferson County Medical Society, July 7, the presentation having been made by Doctors M. Y. Dabney and M. S. Davie, respectively; that of Dr. L. L. Hill at a meeting of the Montgomery County Medical Society, July 10, Dr. J. S. McLester making the presentation; and that to Dr. McCafferty at a meeting of the Mobile County Medical Society, July 15, being presented by Dr. Fred W. Wilkerson of Montgomery.

Posthumous award recognizing the pioneer work of Dr. George H. Searcy in pellagra was made to Mrs. Searcy by Dr. W. D. Partlow at a meeting of the Tuscaloosa County Medical Society.

Thus, though belatedly, the Association has acknowledged the contributions made to the science of medicine by these members of the profession.

BLEEDING PEPTIC ULCER

"In reviewing the prominent literature of the past five years, one is impressed by the intense controversy existing over the acceptable therapy for peptic ulcer hemorrhage. The fact that hemorrhage occurs in 30 per cent of gastro-duodenal ulcerations and in 45 per cent of anastomotic lesions stresses the need for further studies." Thus do Browne and McHardy¹ open their consideration of this subject. The New Orleans investigators review the recent literature and discuss the results obtained in a group of one hundred and thirty-one cases of peptic ulcer which they have treated. Their conclusions are that:

1. Conservative medical therapy is the procedure of choice in treating bleeding ulcers.

2. Reservation should be practiced in accepting Meulengracht's immediate feeding of patients with active bleeding.

3. Aluminum hydroxide offers an approach to attaining physiological control of a bleeding ulcer. It has a favorable place in our case report.

4. Transfusions by the direct method can be given safely without worry over elevated venous pressure, arterial pressure or any systemic reaction of significance.

5. Vitamins have an undetermined position in bleeding ulcer therapy.

6. We would not feed our bleeding ulcer cases immediately but would institute continuous aluminum hydroxide drip, a dietary regimen to be started when hemorrhage had ceased and sufficient time had elapsed for clot fibrosis. We feel that parenteral fluids should be given freely to maintain nutrition, water balance, circulating volume and to combat acidosis. Until proven otherwise, synthetic vitamin C will be considered a valuable adjunct to our regimen.

Turnbull and Sage² report on a series of eighty cases of bleeding peptic ulcer treated

1. Browne, Donovan C., and McHardy, Gordon: Management of Peptic Ulcer Hemorrhage, Am. J. Digest. Dis. 6: 87 (April) '39.

2. Turnbull, George C., and Sage, Joseph H.: Bleeding Peptic Ulcer, Am. J. Digest. Dis. 6: 92 (April) '39.

at the Evanston Hospital, Evanston, Ill., between 1928 and 1937, inclusive, and they conclude that "an analysis of the hospital records of this series of cases bears testimony to the value of medical management, and indicates that medical treatment is the treatment of choice unless repeated hemorrhages occur and the ulcer is of the penetrating or perforating type. An evaluation of variations employed in dietary management indicates that the early use of a relatively liberal and balanced diet, as compared with the routine fasting and the inadequate diet permitted by the standard Sippy regimen, is beneficial in shortening the time of bleeding and in favoring healing."

Both sets of investigators, be it noted, favor medical treatment and discourage surgical intervention unless it becomes imperative. Browne and McHardy go so far as to state that "surgery has lost support. Finsterer stands alone in his claim that all bleeding ulcers require immediate operative intervention; his mortality of five per cent has not been closely approached elsewhere. America's surgeons, Lahey, Balfour and Bevan, reserve surgery for those cases of a decisive medical failure or for those with associated complications which, in themselves, are definite surgical indications."

So baffling and unpredictable is peptic ulcer that the ways and means of treating it will probably continue to change sharply from time to time. But it is certainly pleasing to note that increasing emphasis is now being laid upon the medical or conservative approach rather than upon the surgical or radical means. There can be little doubt that, within the last few years, the surgical treatment of peptic ulcer has been overdone or at least resorted to far too quickly and too frequently.

SIGNING BIRTH AND DEATH CERTIFICATES

More than 95,000 certificates of birth, death and stillbirth are received by the State Board of Health annually. Of that number, approximately 61,000, or not quite two out of three certificates, carry the name of the attending physician.

A recent check of signatures shows that a considerable number are not true signatures. The signature of the attending physician is of the greatest importance. Unless it is his true signature, the record has no legal value.

More than that, unless the true signature is placed on the certificate, irreparable harm may be done the child or family of the decedent. There are numerous accounts on file of court cases, involving inheritance, where the signature of the attending physician has played a decisive part in the settlement of the case. Court cases involving large sums of money have been lost simply because the signature of the physician in attendance was not his true signature. One such instance may be cited where a will was contested on the grounds of the question of the sanity of the decedent. One of the causes of death on the certificate was given as a mental deficiency. Upon cross examination of the physician whose name appeared as having made the medical certification of the cause of death, it was discovered that the signature was not his true signature. The court refused to accept the certificate as evidence and the case was lost.

Many individuals do not find a legal need for their record of birth for a number of years after birth. By that time the attendant may have died or moved to some unknown location and cannot be brought to testify as to the truth of the record.

It is estimated that 300 certificates of death and 1,700 certificates of birth are registered annually without the true signature of the physician. The obligation which rests with the physician is perfectly clear. With so much dependent upon true and accurate records of birth and death, each physician must surely see the necessity that he personally sign every birth, death and stillbirth certificate in his practice. The prompt co-operation of the entire profession is requested to the end that the rights of each and every individual in Alabama shall be protected.

ABSORPTION OF CATGUT IN HUMAN BEINGS

"Although suture materials are of great importance in surgery, many surgeons are inclined to accept the catgut presented to them with little question regarding the actual merit of the product they use. The flexibility, sterility and initial tensile strength of most of the recognized brands of catgut are well standardized. All of these features can be tested quite satisfactorily in the laboratory. The one quality of catgut, of great importance, which cannot be tested

with any degree of satisfaction in this manner is the length of time required for absorption in human tissue. Having observed premature absorption of catgut on several occasions, we decided to make a study of this subject.

"The method used in this study for testing the rate of absorption of catgut was simple. On closure of the incision in an unselected series of abdominal operations, an interrupted suture of the catgut to be tested was placed through the anterior fascia of the rectus muscle and tied around a loop of non-absorbable suture material, which was permitted to project from the skin. Gentle traction was made on the projecting suture material every day or two until it came out, thus indicating that the catgut was absorbed. In many cases three or four of these test sutures were used simultaneously. In no instances did the test sutures interfere with healing of the wound or cause discomfort to the patient. Three hundred and fifty-eight strands of catgut were tested on 164 patients. Various sizes and types of catgut sold by six well-known manufacturers were tested and compared." Thus do Wolff and Priestly¹ open the report of their recent inquiry into this subject and the conclusions drawn from this highly practical study are most interesting.

The investigators found that small sizes of catgut remain unabsorbed as long or longer than larger ones. They inform us that "Bates and others have demonstrated by microscopic examination that small sizes of catgut tend to produce less reaction than the large size in the tissues of experimental animals." Single strands of catgut lasted as long as double strands and probably the only advantage in using double strands is to secure greater initial tensile strength. The authors "were previously of the impression that forty-day catgut would remain intact in the tissues definitely longer than twenty-day catgut; however this impression was found to be erroneous."

In certain individuals chromic catgut was absorbed as fast or faster than plain catgut, but as a rule the process of chromicizing catgut materially lengthens the time necessary for its absorption. Drainage and suppura-

ing wounds do not cause early absorption of catgut. The investigators found great individual variations in the absorption time of catgut, especially when chromicized catgut was used. Labels indicating the length of time necessary for absorption of catgut are entirely fallacious in so far as the human being is concerned and certain brands of catgut consistently last longer than other brands.

Any one who has been engaged in surgery or general practice for twenty or more years can testify to the great improvement in the quality and variety of suture materials now available as compared with what was in use before the World War. The manufacturers deserve credit for much of this. But all is not yet well and studies similar to those of Wolff and Priestly throw much light upon the subject and let us know wherein our weaknesses lie and where further improvement is needed. It is to be hoped that the Rochester investigators' conclusions will be confirmed and extended by both themselves and others.

Committee Contributions

Maternal and Infant Welfare

PROGRAM OF SECTION ON MEDICINE, AMERICAN CONGRESS ON OBSTETRICS AND GYNECOLOGY

Cleveland, Ohio—September 11-15, 1939

PART I—MORNING SECTIONS—9:00-11:30 A. M.

Monday

1. The Thyroid and Pregnancy
Speaker: L. M. Randall, M. D., Rochester, Minnesota
2. Management of the More Common Heart Lesions During Pregnancy
Speaker: Julius Jensen, M. D., St. Louis, Missouri
3. Treatment of Diabetes in the Pregnant Woman
Speaker: Henry J. John, M. D., Cleveland, Ohio
4. Management of Tuberculosis Complicated by Pregnancy
Speaker: Edwin M. Jameson, M. D., Saranac Lake, New York
5. Nutritional Factors in Pregnancy
Speaker: Icie Macy Hoobler, Ph.D., Detroit, Michigan
6. The Surgical Abdomen Complicated by Pregnancy
Speaker: Louis E. Phaneuf, M. D., Boston, Massachusetts
Discussant: W. D. Fullerton, M. D., Cleveland, Ohio

1. Wolff, L. H., and Priestly, J. T.: The Absorption of Catgut in Human Beings; Preliminary Report, Proc. of the Staff Meetings of the Mayo Clinic, 14: 149 (March 8) '39.

7. The Treatment of Abortions

Speaker: Davis S. Hillis, M. D., Chicago, Illinois

Tuesday

1. The Newer Conception of Ovarian Neoplasm
Speaker: Howard C. Taylor, Jr., M. D., New York City

2. Special Features in the Operative Management of Surgically Difficult Malignant Growths and Kindred Lesions of the Pelvic Viscera
Speaker: Arthur H. Curtis, M. D., Chicago, Illinois

3. The Diagnosis and Treatment of Pelvic Endometriosis

Speaker: Franklin L. Payne, M. D., Philadelphia, Pennsylvania

4. The Diagnosis and Treatment of Ectopic Pregnancy

Speaker: John Rock, M. D., Boston, Massachusetts

Wednesday

1. Reduction of the Operative Incidence in Obstetrics

Speaker: S. A. Cosgrove, M. D., Jersey City, New Jersey

2. Practical Consideration of Labor Complicated by a Contracted Pelvis

Speaker: John Harris, M. D., Madison, Wisconsin

3. Dystocia due to the Cervix and Soft Parts

Speaker: W. C. Danforth, M. D., Evanston, Illinois

4. The Pathology and Treatment of the Retained Placenta

Speaker: E. A. Schumann, M. D., Philadelphia, Pennsylvania

Thursday

1. Treatment of Endocrine Disturbances in the Adolescent Female

Speaker: Emil Novak, M. D., Baltimore, Maryland

2. The Treatment of Menopausal Disturbances

Speaker: August A. Werner, M. D., St. Louis, Missouri

3. Practical Endocrine Therapy in Obstetrics and Gynecology

Speaker: Edward Allen, M. D., Chicago, Illinois

4. Sterility in the Female

Speaker: S. R. Meaker, M. D., Boston, Massachusetts

Friday

1. Sulfanilamide in Obstetrics and Gynecology

Speaker: Perrin Long, M. D., Baltimore, Maryland

2. Pyelitis

Speaker: Herbert F. Traut, M. D., New York City

3. The Treatment of Chronic Pelvic Infections

Speaker: Charles C. Norris, M. D., Philadelphia, Pennsylvania

4. Immediate and Remote Complications of Labor

Speaker: Frank W. Lynch, M. D., San Francisco, California

PART II—ROUND TABLES

(Running concurrently each day from 12:15 to 1:15 P. M.)

The Toxemias of Pregnancy

Monday, F. S. Kellogg, M. D., Boston, Massachusetts; Assistant Professor of Obstetrics, Harvard University Medical School

Tuesday, Herman Johnson, M. D., Houston, Texas; Attending Obstetrician, Baptist, Jefferson Davis, St. Joseph's and Hermann Hospitals

Wednesday, W. J. Dieckmann, M. D., Chicago, Illinois; Associate Professor of Obstetrics and Gynecology; The School of Medicine of the Division of the Biological Sciences, University of Chicago

Thursday, E. L. King, M. D., New Orleans, Louisiana; Professor of Obstetrics, Tulane University School of Medicine; Visiting Surgeon, Department of Obstetrics, State of Louisiana Charity Hospital

Friday, R. A. Ross, M. D., Durham, North Carolina; Assistant Professor, Obstetrics and Gynecology, Duke University School of Medicine; Obstetrician, Watts Hospital

Genital Infections

Monday, B. P. Watson, M. D., New York, City; Professor of Obstetrics and Gynecology, Columbia University College of Physicians and Surgeons

Tuesday, O. H. Schwarz, M. D., St. Louis, Missouri; Professor of Obstetrics and Gynecology, Washington University School of Medicine

Wednesday, J. R. Goodall, M. D., Montreal, Quebec; Clinical Professor of Obstetrics and Gynecology, McGill University Faculty of Medicine

Thursday, John Fraser, M. D., Montreal, Quebec; Professor of Obstetrics and Gynecology, McGill University Faculty of Medicine

Friday, Bayard Carter, M. D., Durham, North Carolina; Professor of Obstetrics and Gynecology, Duke University School of Medicine

Obstetric and Gynecologic Hemorrhages

Monday, George Gray Ward, M. D., New York City; Clinical Professor of Obstetrics and Gynecology, Columbia University College of Physicians and Surgeons; Professor of Obstetrics and Gynecology Emeritus, Cornell University Medical College.

Tuesday, Wm. P. Healy, M. D., New York City; Gynecologist, Memorial Hospital

Wednesday, J. C. Litzenberg, M. D., Minneapolis, Minnesota; Professor and Chief, Obstetrics and Gynecology, University of Minnesota Medical School

Thursday, Norris W. Vaux, M. D., Philadelphia, Pennsylvania; Professor of Obstetrics, Jefferson Medical College

Friday, W. R. Cooke, M. D., Galveston, Texas; Professor of Obstetrics and Gynecology, University of Texas School of Medicine

The Fetus and the Newborn

Monday, LeRoy A. Calkins, M. D., Kansas City, Missouri; Professor of Obstetrics and Gynecology, University of Kansas School of Medicine

Tuesday, W. A. Scott, M. D., Toronto, Ontario;
Professor of Obstetrics and Gynecology, Uni-
versity of Toronto Faculty of Medicine
Wednesday, Stewart H. Clifford, M. D., Boston,
Massachusetts
Thursday, Herbert C. Miller, Jr., M. D., New
Haven, Connecticut
Friday, Edith L. Potter, M. D., Chicago, Illinois;
Instructor and Pathologist, Department of Ob-
stetrics and Gynecology, University of Chicago

*Forceps, Occiput Posteriors, and Breech
Presentation*

Monday, Arthur H. Bill, M. D., Cleveland, Ohio;
Professor of Obstetrics and Gynecology, West-
ern Reserve University School of Medicine
Tuesday, Paul Titus, M. D., Pittsburgh, Pennsyl-
vania
Wednesday, W. E. Caldwell, M. D., New York
City; Professor of Clinical Obstetrics and
Gynecology, Columbia University College of
Physicians and Surgeons

Thursday, M. Pierce Rucker, M. D., Richmond,
Virginia
Friday, J. B. Jacobs, M. D., Washington, D. C.;
Associate Professor of Obstetrics, Georgetown
University School of Medicine

Anesthesia, Analgesia and Amnesia in Labor

Monday, N. J. Eastman, M. D., Baltimore, Mary-
land; Professor of Obstetrics, Johns Hopkins
University School of Medicine
Tuesday, R. A. Bartholomew, M. D., Atlanta,
Georgia; Professor of Clinical Obstetrics, Emory
University School of Medicine
Wednesday, W. T. Pride, M. D., Memphis, Ten-
nessee; Professor of Obstetrics, University of
Tennessee College of Medicine
Thursday, Howard F. Kane, M. D., Washington,
D. C.; Professor of Obstetrics and Gynecology,
George Washington University School of Medi-
cine
Friday, Clifford B. Lull, M. D., Philadelphia,
Pennsylvania; Assistant Professor of Obstetrics,
Jefferson Medical College

DEPARTMENT OF PUBLIC HEALTH

BUREAU OF LABORATORIES

Samuel R. Damon, Ph.D., Director

SPECIMENS EXAMINED

JUNE 1939

Examinations for diphtheria bacilli and Vincent's	671
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	911
Typhoid cultures (blood, feces and urine) ..	1,498
Examinations for malaria	3,088
Examinations for intestinal parasites	2,797
Serologic tests for syphilis (blood and spinal fluid)	17,631
Darkfield examinations	26
Examinations for gonococci	1,742
Examinations for tubercle bacilli	1,606
Examinations for Negri bodies (microscopic)	95
Water examinations (bacteriologic)	992
Milk examinations	2,136
Pneumococcus typing	18
Miscellaneous	995
Total Specimens	34,166

TYPHOID VACCINE

In the manufacture of typhoid vaccine the Laboratories of the State Department of Health have for many years followed the lead of the U. S. Army Medical School. In line with this policy, the culture employed for making the vaccine was a transfer of the Rawlings' strain used in the preparation of the Army vaccine.

A few years ago some question was raised as to the antigenicity of the Rawlings' strain and extensive studies were undertaken at the Army Medical School which resulted in the adoption of a recent isolation from a carrier in Panama, in place of the Rawlings' strain, in the preparation of vaccine. This culture, known as No. 58, has been used for several years past in the preparation of the Army vaccine. The strain has been adopted also for the preparation of the Alabama State Department of Health typhoid vaccine, being used in the same concentration as had been the Rawlings' strain.

During recent months some complaints have been received which indicated from their general nature that the concentration of the product was too great. Laboratory studies were accordingly carried out which showed that considerable dilution of the vaccine might be made with no apparent loss in antigenicity. With this information in hand, a considerable amount of the original vaccine was diluted and given to several County Health Officers for field trial. The results of these tests indicated that the diluted product was satisfactory as very few reactions were noted following its administration.

The State Health Officer has therefore given instructions that all of the old vaccine be replaced with the new diluted vaccine. To this end a note was directed to each County

Health Officer requesting that he return all old vaccine to this office and requisition the amount of new vaccine necessary for the needs of his county.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

THE REPORTING OF CANCER

At the annual meeting of the State Medical Association in Montgomery this year, its Committee on Prevention of Cancer outlined the extent of the problem in Alabama and suggested a program.

It stated that "during the year 1938, sixteen hundred forty-three (1,643) deaths from cancer were reported to the Department of Public Health. From a survey of the State recently made by this Committee it would appear that there were approximately six thousand (6,000) cases of cancer seen by the profession during that year."

These figures as to the number of cases are approximate and are used because no morbidity statistics are available. In an attempt to find out more accurately the actual incidence of cancer in the State, the State Committee of Public Health declared cancer to be a notifiable disease and requested the profession to report all cases in the same manner as the communicable diseases. A letter to this effect was sent each physician and a request made that cases be reported on the weekly report card giving the details of the case as to name, race, sex, age and address, together with the location of the cancer.

The first reports were received during the week ending June 3rd and there were reported all told something over one hundred cases (100) during the month of June. This number is not large, but it is hoped that there will be an increasing response as physicians become accustomed to making these reports. As the cases are reported the information is transferred to a case card and these are filed alphabetically. A permanent record is being prepared which in time will be of extreme value in any cancer control program.

Physicians are urged to report their cases of cancer.

SYPHILIS AND PHIMOSIS

Chancres that occur under a phimotic prepuce may appear to offer a stumbling block to early diagnosis by darkfield examination.

It is possible to feel, quite often, the button-like mass in the prepuce but this does not make a diagnosis. The satellite adenopathy is highly suggestive but it is not diagnostic. Since the serologic tests may be negative, dependence must be placed on the darkfield examination. To do a dorsal slit to expose the chancre is taking a great chance since considerable sloughing may occur with the resulting formation of unnecessary scar tissue.

Material for a darkfield may be obtained from one of the near-by enlarged glands. The gland to be used is held firmly between the thumb and forefinger of the left hand. Five to 10 minims of a saline solution are to be injected. A 21-gauge needle is inserted into the gland and the saline injected. Before suction is made the needle is moved around in the gland to traumatize it. Then, when suction is applied, the material entering the syringe is a mixture of saline and serum. Darkfield examination of this material is now made. This same procedure can be repeated for three successive days if negative results are encountered on the first and second examinations.

The treatment which follows the finding of *spirocheta pallida* works wonders as far as the healing of the chancre is concerned. When complete restitution to normal of the prepuce has occurred, circumcision should be considered.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

MIDWIFE INSTRUCTION

The following contribution was made by the public health nurses of Mobile County. It is a conversation that might take place in any county.

Midwife: Good mawnin, nurse. I's so glad to see you agin. You'se jist as purty as ever.

Nurse: Good morning, Mary. We haven't heard from you in so long I thought I would drop by to see you. Why didn't you attend the midwife club meeting last Monday?

Midwife: Law, honey chile, I was all ready to go and Jack Sullivan driv up for me to go wait on his wife, Sara. I'se telling you I had heaps o' troubles wid dat 'oman.

Nurse: What trouble did you have with her, Mary?

Midwife: She thought I ought to 'zamine her and give her medicines.

Nurse: What kind of examination did you make and what kind of medicines did you give her?

Midwife: 'Fo Jesus, honey, I didn't 'zamine dat 'oman and I didn't give her no medicine. I knows better now since I'se been gwine to de meetin's.

Nurse: Is the baby all right? Have you had any trouble with its eyes or navel?

Midwife: No'am. I alus gits two drops of dat eye medicine in each eye, and I sees dat it comes out o' de eyes milky looking. I allus uses de dressings what we buy at de drug sto'.

Nurse: Did you send a card in on Sara Sullivan?

Midwife: Chile, I sho' forgot dat 'til yistidday. I sонт it on de dinner time mail. I jist guess it didn't get dere 'fo you lef.

Nurse: Mary, you must get the card in the day the baby is born. Now, let's see your bag.

Midwife: All right, I'se got a new outfit since you'se seen me last. Let me show you how well it fits me. (Midwife puts on cap.) I fuss puts on my cap and sees dat all of my hair is kivered, den I puts on my mask and sees dat my nose and mouf is kivered. Den I scrubs my hands and I'se ready fo my gown. (Midwife puts on gown and ties it.)

Nurse: Why do you tie your gown yourself?

Midwife: Caze my hands is clean an I don want no dirty hands touching me.

Nurse: Mary, you have very nice equipment.

Midwife: Thank you, Miss. I use to think dem new fangled contraptions about having to scrub de hands wid a brush, wear a gown and all dese things was foolishment, but I sho' likes 'em since I'se got use to 'em. (Midwife removes gown, cap and mask, replaces them in the lining and starts to put them in.)

Nurse: Mary! Is that what you do with the gown when you finish with it?

Midwife: Yessum.

Nurse: You must keep a bag or use a newspaper to put your soiled things in after you have used them. Never put them in your bag until they have been washed. I am surprised at you.

Midwife: Yessum, I sho' will remember dat.

Nurse: Let's check again to see if you need any supplies. You have two prenatal and two post-natal sheets, two cards, two boxes of silver nitrate, four birth certificates, and one birth book. (Takes out notebook to take names of mothers.) Mary, do you have any expectant mothers who have not been reported to us?

Midwife: Lemme see. Yassum, I has Elizabeth White who lives on Mr. Smith's farm. You goes down de road 'till you crosses de first branch, den turn towdes de no'th, go 'bout a mile an she lives in a red house. I sho' wants you to see her 'caze she say she cain't see no use in her going to no doctor, 'cause her mama done had six babies and dey ain't no doctor seen 'er yit. I tole her rules had done changed and I could not tend her effen she didn't go to a doctor or de clinics and take a specification of urinate.

Nurse: All right, I'll see her. Do you have any other patients?

Midwife: Noam, I ain't got no mo'.

Nurse: Mary, you keep talking about the new ways. Tell me some of the things you did before you began going to the club meetings.

Midwife: Lemme see now, I used to think I was a doctor 'oman an I could treat my patients

'fo dey babies come, so I would give 'em medicines, pills, salts and teas. Den I thought I sho' had to 'zamine 'em when de started having pains. I put 'em on a pallet 'cause I didn't want to spoil de bed. Now I kin ketch a baby without eben gittin one bit of soil on de bed. I useta thought I could borrow de 'oman's scissors to cut de cord, put 'em in hot water and wipe 'em on my apern. I c'd leave her scissors under de mattress fo' nine days better en I c'd mine. You know I thought dey must be lef' under de mattress to cut de after pains. I useta have sewing thread to tie de cord, den I put some grease and smut on it and den kivered it wid jis any piece of cloth I could find. I thought the mother must eat nothing but tea and toast for a week. Oh yes! I thought she must git up de third day 'cause Christ rose de third day. I thought the baby must have the hives so I just wrapped it up head and years and give it teas. I thought dat water in the mother's breast was pisen and de baby must not nurse until de milk come down; den he was hongry every time he yelled. My babies allus slept wid dey mama an didn't git no water to drink for a long time. If de eyes got so' I jist put some breast milk or strong coffee in 'em. Oh yes! I knowed dey must be sumptin else. I thought that de room must be kept dark. I thought fresh air and sunshine was de worst thing in the world for a 'oman and young baby, but I'se glad to know better now.

Nurse: Mary, I must go and I will see you again. If you have any troubles, just let me know.

Midwife: Yessum, I'se sho' is glad you come and I promises you I will sho' be at the next meetin'.

BUREAU OF VITAL STATISTICS

Leonard V. Phelps, S. B. in P. H., Director

DIVORCES IN ALABAMA

There were 3,714 divorces reported to the State Board of Health in 1938, or 325 less than the high record (4,039) of the preceding year. It is well known that the number of divorces declines progressively during periods of economic depression. Such was our experience during the past decade when the number of divorces declined to a low point of 2,188 in 1932, only to rise steadily to a high point of 4,039 in 1937.

It is interesting to note the causes of divorce as stated on the divorce reports. They are shown in the accompanying table and according to whether the person granted the divorce was husband or wife. In 843 (22.9 per cent) instances the divorce was granted to the former; 2,222 (60.3 per cent), the latter and 617 (16.8 per cent), both.

Abandonment, taken as a single cause, was responsible for 1,544 (42.0 per cent) divorces; alone or in combination with other causes,

1,564 (42.5 per cent). Next in order of importance was cruelty which, taken singly, was charged with 1,391 (37.8 per cent) divorces; alone and in combination with other causes, 1,439 (39.1 per cent). The third leading cause was adultery, which singly caused 306 divorces (8.3 per cent); singly and in combination, 318 (8.6 per cent). Drunkenness, the fourth most prominent cause, was alone responsible for 299 (8.1 per cent) divorces; alone and in combination, 340 (9.2 per cent).

NUMBER OF DIVORCES GRANTED ACCORDING TO CAUSE AND PERSON GRANTED THE DIVORCE: ALABAMA, 1938

CAUSE OF DIVORCE	DIVORCE GRANTED TO:				
	Total	Hus-band	Wife	Both	Not Stated
Adultery	306	172	95	36	3
Adultery and abandonment	7	4	2	1	
Adultery and cruelty	5		4	1	
Adultery and drunkenness	1		1		
Adultery and combination	319	176	102	38	3
Cruelty	1,391	7	1,197	183	4
Cruelty and abandonment	7	1	6		
Cruelty and drunkenness	36		30	5	1
Cruelty and adultery	5		4	1	
Cruelty and combination	1,439	8	1,237	189	5
Abandonment	1,544	601	584	344	15
Abandonment and adultery	7	4	2	1	
Abandonment and cruelty	7	1	6		
Abandonment and drunkenness	1		1		
Abandonment and non-support	5		2	3	
Abandonment and combination	1,564	606	595	348	15
Drunkenness	299	28	241	27	3
Drunkenness and abandonment	1		1		
Drunkenness and cruelty	36		30	5	1
Drunkenness and nonsupport	3		3		
Drunkenness and adultery	1		1		
Drunkenness and combination	340	28	276	32	4
Insanity	11	9	2		
Impotency	4		3	1	
Imprisonment	2		1	1	
Nonsupport	38		31	6	1
Nonsupport and abandonment	5		2	3	
Nonsupport and drunkenness	3		3		
Nonsupport and combination	46		36	9	1
Other	20	12	5	3	
Unknown	34	9	14	6	5
Total (All causes)	3,714	843	2,222	617	32

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E., Director

INVENTORY OF SEWAGE DISPOSAL IN ALABAMA

Included in a 1938 survey of sewage disposal facilities in the United States which was made by the Engineering News-Record from data furnished by the forty-eight state sanitary engineers is the following inventory of sewage disposal in Alabama:

Incorporated places	297
Sanitary districts (in Jefferson County)	1
Communities served by public water supplies	272
Population	
Total urban (places of 2,500 population and over)	744,273
Included in sanitary districts	431,493
Served by sanitary sewers	639,953
Served by treatment plants	334,481
Communities with sewerage facilities	
Separate sanitary sewers	167
Combined storm and sanitary sewers	0
Storm sewers only	0
Sewage treatment plants	81
Ownership	
Privately-owned public sewerage systems	
Systems provide income through rentals	12
Industrial waste treatment plants	1
Degree of treatment (number of communities where treatment ends with)	
Sewage farms or land disposal, without disinfection	0
Sewage farms or land disposal, with disinfection	0
Screening, without disinfection	1
Screening, with disinfection	1
Primary sedimentation, without disinfection	63
Primary sedimentation, with disinfection	3
Oxidation, without disinfection	10
Oxidation, with disinfection	3
Major processes of treatment works (number of plants using)	
Coarse screens	2
Fine screens	0
Screenings shredding	0
Screenings incineration	0
Grease separation	0
Primary sedimentation	
Without coagulation	65
With coagulation	1
Mechanical sludge removal	6
Septic tanks	59
Imhoff tanks	12
Filtration	
Contact beds	1
Trickling filters	4
Intermittent sand filters	1
Activated sludge	0
Secondary sedimentation	2
Chemical precipitation	1
Chlorination	7
Disposal of sludge	
Separate sludge digestion	6
Sludge drying beds (all open)	18
Sludge lagoons	0
Mechanical dewatering	0
Incineration	0
By-product utilization	
Fertilizer production	0
Gas for heat	2
Gas for power	0

Those who are interested in the survey covering all forty-eight states may refer to

the January 19, 1939 issue of the Engineering News-Record for the complete tabulation.

the Hillman Hospital, which will be open by that time.

* * *

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

	1939	Estimated Expectancy June
	May	June
Typhoid	22	63
Typhus	31	23
Malaria	361	416
Smallpox	3	4
Measles	734	241
Scarlet fever	19	30
Whooping cough	220	195
Diphtheria	14	35
Influenza	832	48
Mumps	192	59
Poliomyelitis	2	9
Encephalitis	2	2
Chickenpox	95	44
Tetanus	1	6
Tuberculosis	279	298
Pellagra	20	108
Meningitis	5	9
Pneumonia	218	119
Syphilis	1332	319
Chancroid	1	7
Gonorrhea	220	201
Ophthalmia neonatorum	2	1
Trachoma	0	0
Tularemia	8	0
Undulant fever	4	5
Dengue	0	0
Amebic dysentery	0	0
Cancer	0	103
Rabies—Human cases	0	0
Positive animal heads	26	30

*As reported by physicians and including deaths not reported as cases.
The Estimated Expectancy represents the median incidence of the past nine years.
With the venereal diseases, clinic cases were not included prior to 1936.

Annual meeting of the Alabama State Pediatric Association will be held in the auditorium of the Hillman Hospital Thursday, September 7. Program will feature a round table discussion from 1:00 to 1:45 P. M. on sulfanilamide, neoprontosil and sulfapyridine, with Drs. Hughes Kennedy and Wallace Clyde as co-chairmen. From 1:55 to 2:55 P. M. Dr. Angus McBryde, Assistant Professor of Pediatrics at Duke University, will conduct a clinic. In the hour from 4:00 to 5:00 P. M. the State Department of Health will conduct a symposium on nutrition. Dinner will follow, with place and hour to be announced from the floor of the assembly. For the evening session beginning at 8:00 P. M., the State Pediatric Association invites the Jefferson County Medical Society and its guests to hear Dr. McBryde. At the conclusion of the evening session the Association will hold its business meeting.

The officers of the Association are Dr. Stewart H. Welch, Birmingham, President; Dr. M. Vaun Adams, Mobile, Vice-President; and Dr. W. R. Britton, Montgomery, Secretary and Treasurer.

Medical News

(Secretaries of county medical societies and other physicians will confer a favor by sending for this section of the Journal items of news relating to society activities.)

The Jefferson County Medical Society will conduct a postgraduate seminar in Birmingham on September 8 and 9. The following doctors are to appear on the program: Dr. Benjamin S. Barringer of New York; Dr. Hobart A. Reimann of Philadelphia; Dr. Angus McBryde of Duke University; Dr. William Rienhoff of Baltimore; Dr. E. L. Sevringhaus, Madison, Wis.; and Dr. E. F. Traub, New York City.

There will be a barbecue on the afternoon of the 8th for the attending physicians. All of the physicians of the State are invited and there will be no registration charge for the seminar. It is expected that the meeting will be held in the new outpatient department of

Book Abstracts and Reviews

Getting Ready to be a Father. By Hazel Corbin, General Director, Maternity Center Association, New York. New York. Cloth. Pp. 48. Price, \$1.25. New York: The Macmillan Company, 1939.

A "prepared papa" after one talk, according to Miss Bryce in the book "Getting Ready to be a Father," wipes his brow with the back of his hand and whispers to his neighbor, "Say, this being a father is a man-sized job!" And Hazel Corbin, General Director, Maternity Center Association, New York City, describes in a breezy style these classes for prospective fathers. She tells the story of one father, a typical young man who went to this class and what he learned at them. There is a chapter on anatomy and physiology with sufficient illustrations; then advice on choosing safe medical, hospital, and nursing care and their costs; lessons in how to understand the moods and whims of a wife who expects a baby; how to make simple furniture, and, not the least, how to care for the baby itself—bathing, dressing, diapering, feeding, and bubbling.

The simple story style with the illustrations makes this small volume a valuable addition to the physician's library and one which should belong to every expectant father to be used as his guide and handbook. When he has "digested" the contents he will have gone a long way toward

his degree of P. P. (prepared papa) bestowed on those attending the classes at Maternity Center.

E. F. D.

Heart Patients, Their Study and Care. By S. Calvin Smith, M. D., Sc. D. Formerly Special Heart Examiner for the Surgeon General's Office; author of "Heart Affections: Their Recognition and Treatment;" "Heart Records: Their Interpretation and Preparation;" "How is Your Heart?"; and "That Heart of Yours." Cloth. Pp. 166. Price, \$2.00. Philadelphia: Lea and Febiger, 1939.

In this little book, the author has condensed twenty-five years' experience in the practice of cardiology. Written primarily for the busy practitioner, it is direct, concise and unencumbered by details of scientific interest with little practical value. The symptoms of heart disease are discussed with emphasis on their exact nature and their causes. The method of history taking and physical examination is given in detail. Important laboratory tests in the study of heart disease are described. There is a very concise presentation of the subject of electrocardiography. The book is excellent for rapidly reviewing the subject of cardiology or as a beginner's textbook.

C. K. W.

A Manual of Fractures and Dislocations. By Barbara Bartlett Stimson, A. B., M. D., Med. Sc. D., F. A. C. S. Associate in Surgery in the College of Physicians and Surgeons, Columbia University, New York City; Assistant Attending Surgeon to the Presbyterian Hospital, New York City. Cloth. Pp. 200, illustrated with 95 engravings. Price, \$2.75. Philadelphia: Lea and Febiger, 1939.

This manual on fractures and dislocations is based on the experiences of the staff of the Fracture Service at the Columbia-Presbyterian Center at New York. It has the approval of the staff. It is a short concise presentation of the subject and will be of distinct use to medical students and practitioners, who see an occasional fracture. There is no detail consideration of the subject as a whole or of individual fractures and will probably not be considered of importance by men who have an extensive experience in fractures. This is, however, no drawback as the work is not so intended. It is felt that the Manual successfully fills the role for which it was designed.

J. L. B.

Textbook of Surgery. By 188 American Authorities. Edited by Frederick Christopher, B. S., M. D., F. A. C. S., Associate Professor of Surgery at Northwestern University Medical School; Chief Surgeon, Evanston (Illinois) Hospital. Cloth. Pp. 1,695, with 1,381 illustrations on 752 figures. Price, \$10.00. Second edition, revised. Philadelphia and London: W. B. Saunders Company, 1939.

This is truly a text book of surgery edited by Frederick Christopher having contributions by some one hundred and eighty American authors. The work is written almost entirely from a student's point of view as a majority of the contributors are, or have been, connected with teaching institutions. The possible inference that this is an elementary work is not intended because there is great value to be derived by those actually engaged in the practice of surgery. There is a great deal more subject matter, in other words, than actual operative technic. This work would need supplementary literature for those doing surgery.

The impression is gained that the contributors

are truly expert in their lines, and they are all to be complimented upon the completion of this second edition of an excellent textbook and an excellent reference book for the practicing surgeon.

There are a number of entirely new chapters in the second edition and a still greater number have been revised and brought up to date.

It is felt that the work will have a steady justifiable increase in popularity by both students and graduates.

J. L. B.

Twenty-eight Years of Sterilization in California. By Paul Popenoe, Sc. D., and E. S. Gosney, B. S., LL. B., President of the Human Betterment Foundation, Pasadena, California. Paper. Pp. 47. Price, 25c. Pasadena, California: The Human Betterment Foundation.

Twenty-Eight Years of Sterilization in California is a brief, pocket-sized publication of but forty-seven pages, published by the Human Betterment Foundation of California, yet it contains a surprisingly comprehensive discussion of sterilization.

The point that sterilization is not a punishment but a protection alike to the afflicted, their families, to society and to posterity is brought out. One soon discovers that the authors are much concerned with multiplication among feeble-minded and others mentally incapacitated.

Not all persons sent to state institutions are sterilized, but rather only those recommended by the medical superintendent of the hospital. Special consideration is given those likely to return to society. The need for sterilization to prevent further offspring benefits the family which can ill afford the addition of more children and at the same time protects society by reducing reproduction among the mentally unfit. It is contended that every hospital supported by public funds should be open to indigent patients for voluntary sterilization. Further, that many defective parents would be glad to stop producing children, if they could find within their reach some effective way to do so.

The statement is made that dementia praecox fills more hospital beds in the United States than any other disease, physical or mental. Further, that this one disease alone costs the United States at least a million dollars a day. Manic-depressive psychoses, the second leading cause of mental deficiencies is particularly a problem of married women. It represents a form of insanity which grows out of a definite type of inherited constitution and runs in families just as does dementia praecox.

The total length of time spent in the institution by the patient following the operation averages less than one year. After leaving he is kept on the books for at least six months. He is discharged at the end of that period if he is doing well. If not, the case is kept open and he may be in and out of the hospital for the remainder of his life. Patients on parole in California are said to number about 2,000, of whom about one-fourth have been sterilized.

Epilepsy is briefly referred to. It is said that estimates indicate as high as half a million epileptics now in the United States.

Some 200 convicts in California's largest prison

(San Quentin) have been sterilized as voluntary patients. It is stated that a general program of sterilization would reduce the number of psychopaths, which, in turn, would reduce the number of persons most likely to commit crime.

It is stated that investigations in many states agree with those made in California, namely, that educated families are dying out, while families of the feeble-minded and of the chronic paupers are not only holding their own but are increasing.

A study of the parentage of retarded children in the Los Angeles schools shows that parents of the professional class, which provides 5 per cent of the sterilized patients and 1 per cent of the retarded children, produce 54 per cent of the very bright children. On the other hand, the unskilled and semi-skilled laborers, who produce 46 per cent of the sterilized feeble-minded and 55 per cent of the retarded children, furnish 1 per cent of the very bright children.

Some hospital patients can never be discharged. Others who have been discharged have found occupations suited to their capacities. While their income is small, they are much more satisfied than they would ever be as inmates of even an ideal institution.

The contention by some, that the releasing of sterilized defective persons in a community would increase the amount of delinquency, encourage prostitution, spread venereal disease, and in that way create more social problems than it solves, is refuted. In fact, a reduction in sex delinquency has been noted.

It is now recognized that an insane or feeble-minded person is not a desirable parent. Already 29 states have adopted sterilization laws. The day is now past when eugenic sterilization could be looked upon as an innovation or experiment.

L. V. P.

Teaching Procedures in Health Education. By Howard L. Conrad, Ed. M., Supervisor of Physical and Health Education in the Philadelphia Public Schools and Lecturer in Hygiene at Temple University; and Joseph F. Meister, Ed. M., Instructor in the Department of Physical and Health Education at Temple University, and Lecturer in Anatomy and Physiology at the Women's Homeopathic Hospital, Philadelphia. Cloth. Pp. 160, illustrated. Price, \$1.75. Philadelphia and London: W. B. Saunders Company, 1939.

The scope of health education has become so wide that now it covers virtually the entire field of health protection. A country doctor advising a backwoods patient not to lift heavy logs out of consideration for an impaired heart may be said to be engaged in a one-man health education campaign. A member of the staff of the local tuberculosis sanatorium addressing a Rotary or Kiwanis club on this disease is likewise a health educator. So is a former newspaper worker employed by a state health department to supply the newspapers and the radio with material on proper living from the health point of view. And so is the teacher attempting to instill proper health habits in his or her pupils.

It is to this last-mentioned group that the authors have addressed the present volume. It con-

tains little of interest to the health educator who depends upon the great information-disseminators like the press and the radio for the spreading of his message of health, but it contains a wealth of knowledge for the school worker who labors in the field of health information.

Those who think health education, particularly the kind to which those two authors have devoted their attention, is a product of the automobile-radio era will find themselves badly mistaken if they read this book. As long ago as 1500 B. C.—which is going pretty far back—Egyptian hieroglyphics conveyed to the health-minded of that time information regarding disease prevention and food preservation, Messrs. Conrad and Meister point out, while the Hellenic Library at Alexandria included in its collection, prior to its destruction, “advanced studies of anatomy, physiology and hygiene.” In later periods of history, the home-returning Crusaders brought medical knowledge gained from the Saracens and the Moors. And so on through the Renaissance period to the present time, which has seen the proclamation of “The Children’s Charter,” demanding for every child measures for the “promotion of health, including health instruction and a health program, wholesome physical and mental recreation with teachers and leaders adequately trained.”

The authors of the present volume have done a thorough-going job of telling their readers what health education—especially the particular kind of health education for which they show such great enthusiasm—is and how to make the most of it. Even the person not especially interested in this method of coming to grips with the age-old problem of health and disease should find in it much to remember to his or her profit.

J. M. G.

Health Officer’s Manual. By J. G. Geiger, M. D., Dr. P. H., Sc. D., LL. D., Department of Public Health, City and County of San Francisco, California. Cloth. Pp. 148. Philadelphia: W. B. Saunders Company, 1939.

This is a small, almost pocket-size, manual of 132 text pages that discusses ably the many services of a public health department. In so small a volume detailed descriptions of the measures of doing the work cannot be given but the book excellently fulfills the purpose of the author to “orient the numerous activities with which the health officer must deal.” Many medical services are listed which are not usually considered in the domain of public health, such as, emergency stations and ambulance service, and homes for children, the aged and the incapacitated. A good suggestion is that the health department should be an important link in a civic plan for disaster preparedness. The mention of the out-of-the-ordinary services may indicate a trend that should be considered. As reference material the book should be useful to the health officer as a reminder of the possibilities of his department.

J. S. H.



When the baby travels there is no interruption in the feeding schedule. One airline alone fed 84 S. M. A. infants during the past three months.

THIS TRAVELING MAN EATS

S. M. A. FEEDINGS ARE THE SAME EVERYWHERE

Whether S.M.A. is prepared in New York or California, or even enroute, the feedings are always the same—like breast milk.

In any climate, S.M.A. remains fresh and sweet, because it is nitrogen packed to prevent oxidation or change in its chemical and physical composition.

INFANTS RELISH S. M. A. — DIGEST IT EASILY — THRIVE ON IT!

S. M. A. is a food for infants — derived from tuberculin tested cows' milk, the fat of which is replaced by animal and vegetable fats including biologically tested cod liver oil; with the addition of milk sugar and potassium chloride;



altogether forming an antirachitic food. When diluted according to directions, it is essentially similar to human milk in percentages of protein, fat, carbohydrate and ash, in chemical constants of the fat and in physical properties.

Miscellany

SWIMMER'S ITCH ERADICATED BY USE OF COPPER CARBONATE

DISSOLVING COMPOUND IN WATER IN AREA OF SNAIL BEDS WILL KILL PARASITES WHICH CAUSE THE DERMATITIS

Dissolving copper carbonate in water in the area of snail beds will eradicate schistosome dermatitis, better known as swimmer's itch or water rash. Sterling Brackett, M. A., Madison, Wis., announces in *The Journal of the American Medical Association* for July 8.

The dermatitis is caused by penetration of the skin by the larva of the schistosome cercaria, a parasite of snails most prevalent in the Great Lakes area.

The lakes in this region (Wisconsin, Michigan, Minnesota and the province of Manitoba), which furnish a favorable habitat for the snail hosts of the cercariae, are popular for bathing, thus bringing man into direct association with the causative organism of the disease.

Copper carbonate is recommended by the author as a replacement for copper sulfate because it may be used safely by relatively unskilled persons and one application may be sufficient. Its use, however, may be effective only in smaller isolated bodies of water or in larger lakes where the snails are concentrated in beds. In larger lakes where the snails are too widely distributed to be destroyed, it is suggested that if enough cases of dermatitis occur to justify the procedure the cercariae may be killed daily by spraying a formaldehyde solution on the surface of the water of the bathing beach. A 0.03 per cent solution has been shown capable of killing cercariae in one minute. This substance must be used with extreme care.

"Where these methods of control are unavailable or impracticable or the number of cases of dermatitis too few," Mr. Brackett suggests, "vigorous wiping immediately after coming from infested water is a useful preventive measure. Schistosome cercariae penetrate the skin of human beings largely if not entirely when the water is evaporating.

"This idea is borne out by the observation that the worst dermatitis occurs in children who play in shallow water, where wet parts of the skin are constantly being exposed to evaporation, or in people going in and out of the water frequently. The friction of the towel apparently destroys the cercariae be-

fore they have had a chance to penetrate into the skin.

"Thus, if a bather remains completely immersed until he is through swimming and thoroughly wipes himself immediately on coming from the water, he may completely protect himself from an attack of schistosome dermatitis or at least materially decrease the extent of such an attack. It is emphasized that the rubbing must be done immediately, particularly on warm or windy days, when the water on the skin would evaporate rapidly.

"In recent years in Wisconsin," the author points out, "schistosome dermatitis has attracted attention and apparently injured resort business to such an extent in some localities that the State Board of Health in cooperation with the University of Wisconsin undertook a study of the factors influencing its occurrence with the hope of controlling it. Investigation in 1938, however, with the records from previous years indicated that except for one or two localities the seriousness of the disease has been exaggerated."

Mr. Brackett points out that copper sulfate is not the most suitable chemical to use in the control of schistosome dermatitis because although it does kill snails, under certain conditions it is also dangerous to fish life as well as being rapidly lost in solution. In the search for a more suitable compound for killing snails it was found that copper salts had by far the most lethal action with copper carbonate appearing to be the most promising.

Because of its low solubility it is possible that even an excess of the compound might not be sufficient to endanger fish life, although it would be lethal to snails, laboratory and field experiments indicated. Copper carbonate kills all important species of snails within from two to five days.

"While copper carbonate may cost more per pound than copper sulfate," the author declares, "it may not be more expensive to use, since less of it will probably be effective and it can be applied with less labor.

"The following rule may be used in determining approximately the amount of the compound to be added to the water: Calculate the number of cubic feet of water underlying the area to be treated and multiply this number by 0.0003 pound. This will give approximately the number of pounds of the copper carbonate to saturate the volume of water in question."

WHY MALE BIRTHS INCREASE AFTER WAR

A theory offering an explanation for the definite increase in the proportion of male births following a long war is summarized in the July issue of *Hygeia, The Health Magazine*, from an article in the *Statistical Bulletin of the Metropolitan Life Insurance Company*.

The explanation says that when war breaks out the young male population is quickly drawn into service and that consequently the young women of the warring nations are largely prevented from bearing children, either through the absence of their husbands or because no young bachelors are at home for them to marry. With the return of the young men from the war there is a marked increase in marriages and births, and thus a large proportion of the parents are the younger adults. Since the ratio of males to females at birth is higher when the mothers are young, it is only natural that the ratio of males shows a decided rise after a war.

From fifteen to twenty servings of most of the common fruits and vegetables are required to yield the same amount of calcium as is contained in one pint of milk.—*Hygeia*.

HOYE'S SANITARIUM

"In the Mountains of Meridian"

Meridian, Miss.

Diagnosis and Treatment of Nervous and Mental Diseases, Alcoholic and Drug Addictions. Especially equipped for The Treatment of Mental Disorders. Convalescents, Elderly People and those requiring METRAZOL THERAPY given special monthly rates. Personal supervision of patients. Consulting physicians.

DR. M. J. L. HOYE, Supt.

Formerly Sixteen Years Superintendent of
East Mississippi State Hospital

Tulane University of Louisiana School of Medicine

CLINICS:

During the week October 23 to 28, 1939, will be given daily. Registration \$5.00.

For program and other information, write

DIRECTOR OF GRADUATE MEDICAL
STUDIES

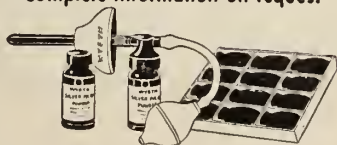
1430 Tulane Avenue New Orleans, La.

A CONVENIENT OFFICE TREATMENT FOR TRICHOMONAS VAGINITIS

THIS simple treatment requires but two office visits, a week apart, for insufflations and the nightly insertion of a Silver Picrate suppository for twelve nights.

Complete remission of symptoms and removal of the trichomonad from the vaginal smear usually is effected following the Silver Picrate treatment for trichomonas vaginitis.

Complete information on request



SILVER PICRATE

Wyeth



JOHN WYETH & BROTHER, INCORPORATED, Philadelphia, Pa.

OFFICERS OF COUNTY MEDICAL SOCIETIES

COUNTY	PRESIDENT	SECRETARY	CHAIRMAN OF BOARD
Autauga	J. E. Wilkinson, Prattville	G. M. Taylor, Prattville	R. G. Shanks, Autaugaville
Baldwin	P. M. Hodgson, Stockton	W. B. Nelson,* Bay Minette	J. C. McLeod, Bay Minette
Barbour	E. T. Comer, Eufaula	E. M. Moore, Clayton	R. O. Norton, Louisville
Bibb	S. C. Meigs, Centerville	M. B. Williams, Centerville	S. C. Meigs, Centerville
Blount	F. F. Whitehead, Blountsville	C. L. Stansberry, Oneonta	F. F. Whitehead, Blountsville
Bullock	J. K. Haygood, Union Springs	H. R. Owen, Union Springs	W. H. McCaslan, Union Springs
Butler	J. E. Kendrick, Greenville	M. F. Parker, Greenville	J. E. Kendrick, Greenville
Calhoun	G. K. Spearman, Anniston	Hunt Cleveland, Anniston	T. F. Huey, Sr., Anniston
Chambers	A. B. Lee, Shawmut	W. H. Riser, Lafayette	Hugh McCulloh, Sr., W.Point,Ga.
Cherokee	J. F. Emerson, Spring Garden	S. C. Tatum, Centre	S. C. Tatum, Centre
Chilton	J. P. Hayes, Clanton	S. D. Sturkie, Clanton	T. J. Marcus, Clanton
Choctaw	H. W. Robinson, Edna	W. J. Barber, Butler	H. W. Robinson, Edna
Clarke	A. L. White, Thomasville	B. S. Black, Grove Hill	J. T. Pugh, Grove Hill, Rt. 1
Clay	C. E. Johnson, Lineville	O. F. Gay, Ashland	J. W. Jordan, Ashland
Cleburne	L. R. Wright, Heflin	F. R. Wood, Heflin	F. R. Wood, Heflin
Coffee	E. L. Gibson, Enterprise	W. A. Lewis, Enterprise	B. J. Massey, Enterprise
Colbert	H. A. Griffith, Sheffield	R. E. Harper, Tuscumbia	W. E. McGrath, Sheffield
Conecuh	E. L. Stallworth, Evergreen	E. L. Kelly, Evergreen	G. G. Newton, Evergreen
Coosa	J. W. Maddox, Rockford	W. H. Goff, Rockford	J. A. R. Chapman, Goodwater
Covington	V. Q. Rawls, Red Level	C. D. McLeod, Andalusia	H. W. Waters, Opp
Crenshaw	J. O. Foster, Luverne	W. T. Bayles, Luverne	D. P. Pruett, Brantley
Cullman	G. T. Rowe, Hanceville	M. S. Whiteside, Cullman	W. L. Tucker Cullman
Dale	R. D. Reynolds, Ozark	W. L. Orr, Ozark	T. D. McKnight, Arifton
Dallas	R. R. Williams, Selma	L. T. Lee, Selma	P. Y. Donald, Selma
DeKalb	D. O. Wright, Ft. Payne	R. J. Guest, Jr., Ft. Payne	R. J. Guest, Jr., Ft. Payne
Elmore	W. M. Gamble, Wetumpka	C. S. Cotlin, Jr., Wetumpka	E. P. Moon, Wetumpka
Escambia	J. O. Lisenby, Atmore	M. H. Hagood, Brewton	G. W. Salley, Atmore
Etowah	H. W. Frank, Gadsden	D. Faucett, Gadsden	H. G. Ford, Gadsden
Fayette	J. D. Scrivner, Berry	H. D. Barber, Fayette	J. D. Scrivner, Berry
Franklin	J. A. Thorn, Vina	N. P. Underwood, Russellville	Z. L. Weatherford, Red Bay
Geneva	C. P. Gay, Geneva	J. W. Dabbs, Geneva	C. P. Gay, Geneva
Greene	D. H. Trice, Boligee	M. B. Cameron, Eutaw	M. B. Cameron, Eutaw
Hale	D. R. Ramey, Jr., Akron	B. M. Drake, Greensboro	C. K. Smith, Greensboro
Henry	C. T. Jones, Newville	C. T. Martin, Abbeville	T. B. Woods, Headland
Houston	S. G. Latiolais, Dothan	W. T. Burkett, Dothan	I. C. Bates, Dothan
Jackson	E. A. Browder, Stevenson	A. S. Dix, Scottsboro	W. C. Williams, Bridgeport
Jefferson	W. B. Hardy, Birmingham	R. A. Hamrick, Birmingham	A. A. Walker, Birmingham
Lamar	G. S. Barksdale, Fernbank	D. R. Brown, Vernon	J. M. Roberts, Vernon
Lauderdale	L. C. Price, Florence	J. E. Dunn, Florence	S. S. Roberts, Florence
Lawrence	J. P. Dyar, Moulton	W. J. Craig, Moulton	S. R. Sanders, Moulton
Lee	P. W. Auston, Opelika	A. H. Graham, Opelika	Virgil Dark, Opelika
Limestone	J. S. Crutcher, Sr., Athens	F. M. Hall, Athens	J. J. Pettus, Belle Mina
Lowndes	W. E. Lee, Ft. Deposit	E. F. Leatherwood, Hayneville	N. G. James, Hayneville
Macon	A. J. Sanders, Notasulga	Murray Smith, Tuskegee	P. M. Lightfoot, Shorter
Madison	W. M. McKissack, Huntsville	J. H. Lary, Huntsville	M. R. Moorman, Huntsville
Marengo	A. H. Bobo, Demopolis	E. T. Norman, Linden	T. F. Long, Sweet Water
Marion	J. R. Burleson, Hamilton	M. S. White, Hamilton	R. L. Hill, Winfield
Marshall	E. M. Hyatt, Albertville	Lee Weathington, Guntersville	E. M. Hyatt, Albertville
Mobile	G. O. Segrest, Mobile	W. W. Scales, Mobile	C. A. Mohr, Mobile
Monroe	W. A. Stallworth, Frisco City	J. T. Hall,* Monroeville	R. A. Smith, Monroeville
Montgomery	J. W. Dennis, Montgomery	D. B. Monsky, Montgomery	T. B. Hubbard, Montgomery
Morgan	T. B. Brindley, Hartselle	L. R. Murphree, Decatur	H. D. Greer, Decatur
Perry	C. B. Robinson, Marion	J. R. Long, Marion	S. A. Gordon, Marion
Pickens	G. B. Wimberley, Reform	V. L. Ashcraft, Reform	H. W. Hill, Carrollton
Pike	C. K. Beck, Troy	Herman Sacks, Troy	W. B. Sanders, Troy
Randolph	W. W. Stevenson, Roanoke	W. A. Edwards, Wedowee	J. T. Clack, Wadley
Russell	Clarence Long, Hurtsboro	John Prather, Seale	W. B. Hendrick, Hurtsboro
Shelby	W. C. Eversole, Vincent	T. Bridges, Boothton	Willena Peck, Montevallo
St. Clair	R. A. Martin, Pell City	J. A. Watson, Springville	J. S. Williamson, Margaret
Sumter	R. E. Hale, Bellamy	S. J. Williams, Livingston	W. J. McCain, Livingston
Talladega	K. P. Evans, Sylacauga	J. H. Hill, Talladega	C. W. C. Moore, Talladega
Tallapoosa	J. E. Cameron, Alexander City	C. C. Fargason, Dadeville	S. H. Newman, Dadeville
Tuscaloosa	Alston Maxwell, Tuscaloosa	Ralph Clements, Tuscaloosa	F. A. Kay, Tuscaloosa
Walker	R. J. Sherer, Jasper	J. L. Sowell, Jasper	W. M. Cunningham, Jasper
Washington	W. E. Kimbrough, Chatom	W. J. Blount, Millry	W. J. Blount, Millry
Wilcox	S. S. Boykin, Oak Hill	J. P. Jones, Jr., Camden	Walter Fudge, Lamison
Winston	W. R. Bonds, Double Springs	W. E. Howell, Haleyville	W. R. Bonds, Double Springs

* Acting Secretary.

THE JOURNAL

of

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Published Under the Auspices of the Board of Censors

Vol. 9, No. 3

Montgomery, Alabama

September 1939

REDUCING THE PNEUMONIA DEATH RATE*

By
G. S. BRYAN, M. D.
Amory, Mississippi

The three great "Captains of the Men of Death" are diseases of the heart, cancer and pneumonia. Of the first two, we know all too little. Of pneumonia, we at long last are learning much. We know that more than one hundred thousand human lives are destroyed annually in the United States by this great killer disease, and that its death rate is around 40 per cent. We know, too, that there are those who will dispute the last statement, but we are aware also that many, many cases are diagnosed and treated as pneumonia that are not true pneumonias.

Since we, individually, refuse to admit that any case not directly due to pneumococcal infection is a true pneumonia, we hold that error in diagnosis accounts for the lower death rate claimed by some. We further hold that, since correct diagnosis depends upon the presence of pneumococci, no man, we care not who he is nor how much clinical experience he may have had, can, positively, diagnose pneumonia without the aid of a microscope. Again we hold that, even though the pneumococcus has been visualized and cultured, the diagnosis is not complete until the infecting organism has been typed.

We know that prior to 1910-13 no specific or effective treatment for pneumonia had been devised or discovered. Nothing beyond good nursing care and supportive treatment was of any value. We know that following the original typing the organisms were classified as types I, II, III and IV. We have long known that pneumonia is divided and described as lobar and bronchopneumonia. We shall not discuss the difference be-

tween these two, since such a discussion would be out of line and needless. We shall say, however, that we know that most of the deaths from lobar pneumonia are due to infection from types I and II. We know further that, while practically all type III cases have, until recently, proven fatal, and while less than ten per cent of the cases are due to type III infection, the average death rate is greatly increased because of the high fatality in this type of infection. On the other hand, we know that most type IV cases recover under proper nursing care; hence it is that types I and II cases have held the spotlight in our efforts to develop a specific treatment.

Nearly a half century ago the great Russian, Metchnikoff, promulgated the teaching that in all sickness due to a specific infecting organism, if recovery should occur, such recovery was due to the phagocytic action of certain leukocytes. We, individually, subscribe to the correctness of this teaching. Hence it was, and is, that all medication with the view of destroying the pneumococcus was futile. Hence it was that we were driven to the conclusion that recovery from pneumonia was dependent upon *vis medicatrix naturae* or the power of natural resistance inherent to a differing degree in each individual patient. That different individuals do possess this power in differing degrees is evident when we see that some individuals fall sick of pneumonia when exposed or brought into close contact with those sick of the disease while others do not. Incidentally, we will say that when "takes" result from contact it will be found that the same type of organism will be found to exist in both cases. Of course, it is possible that a dual type infection may be found in one or both patients.

This brings us to wonder what this natural resistance may be. We believe it is the power that every individual has, in some degree at least, to manufacture antibodies or antipneumococcal serum for himself. So it

*Read before the Association in annual session, Montgomery, April 19, 1939.

was that first the horse and then the rabbit were set to work manufacturing this anti-serum for us. Soon it was made evident that for the serum to be effective it must be of corresponding type with that under treatment. This fact is too well known to require enlargement along this line in the discussion. We soon discovered in typing that when the proper serum was used there was a spectacular change in the capsule enveloping the coccus. This fact led to the conclusion that when the capsule was weakened and dissolved the phagocytic blood cells immediately enveloped and destroyed the cocci. This phenomenon leads us to liken the situation to warfare between armoured and unarmoured combatants. A small number of armoured soldiers might easily overcome a superior force that was not equipped with defensive armour, but given the ability to dissolve this armour by some chemical spray the odds of battle would immediately turn.

So it was found that, when specific serum is given in proper dosage and sufficiently early, recovery is sure and swift. Again it is probable that the capsule in which the coccus is encased is not only a means of defense for the infecting organism but it probably throws off toxic material that destroys the life of the host. It is also probable that the serum inhibits the multiplication of the cocci as well as weakens the capsule. In all events, it has been definitely shown that the death rate from pneumonia has been cut below fifty per cent of that prevailing when the serum is not used. Thus it is possible to save at least fifty thousand human lives annually in the United States if specific anti-pneumococcic serum should be used routinely in the treatment of this very common and highly fatal malady.

There are several reasons why this plan has not been universally adopted but none of these reasons are valid. First we would mention the fact that our profession seems to be tradition bound. We are slow to give up opinions and practices. We are lethargy bound as well. We sleep too much and think too little. Because people, in great numbers, have always died from pneumonia, we have accepted this as natural and commonplace. In proof of this, after twenty-five years have gone by since it was known to be possible to prevent this wholesale slaughter of the innocents, less than five per cent of pneumonia cases are given specific treatment. Another

reason for nonuse of serum is that so many doctors seem to think that it is out of their province to attempt to use it. They say they can not type their specimens. This need not be true; for any man who is competent to practice medicine can do this or can equip himself for doing so in a very short time and at small expense. Besides, there are but few towns or communities where some one may not be found who is capable and willing to do this for us. Again, it has been claimed that the expense is prohibitive. The treatment costs less than a funeral. Besides this, if serum should be used routinely the country over, the cost would immediately drop until it would be in reach of all, just as was the case with diphtheria antitoxin. Again, a few states have arranged for free distribution of the serum. Of course there are certain contraindications to the use of serum. These are well known or should be. The methods of use are generally understood. There are certain untoward symptoms when used. These are due to individual idiosyncrasies. There should be no uncertainty as to their recognition and how to meet them.

About the time that certain men began to advocate serum treatment and to accept the teaching of Metchnikoff, Wright and others, Paul Ehrlich emphasized his idea of chemotherapy in dealing with specific diseases as illustrated by the use of arsphenamine in syphilis. As wonderful as were the results, may it not be that we were set back decades in our approach to the pneumonia situation thereby? May the brilliant results from the use of 606 not have blinded us as to the possibilities and responsibilities in the handling of the millions of pneumonia patients that have sickened and died since then?

But, truly, wonders never cease. Almost by accident it seems a new and great light may be breaking upon us. Several years ago a new chemical compound was listed, and apparently laid aside as useless in the field of medicine. Only about two years ago we were told that this chemical compound had proven efficacious in dealing with certain types of streptococci. Soon we were told that the elusive and deadly gonococcus could be made to yield when treated with this same drug. Of course there was a rush to obtain and use it; for, indeed, fools rush in where angels (wise men) fear to tread. There were many encouraging reports and many warnings against indiscriminate use of

the new drug, for such it had now come to be called. This was very much as it should have been. We, individually, took occasion to utter warnings, both from the platform and on the printed page. However, we began its cautious use and carried an open mind into the new field. We did not meet with the spectacular results reported by some of our co-workers. However, we kept our face turned forward and upward. About one year ago, in one of our own district meetings, one of our progressive rural members, just back from a stay in Boston, reported startling results in treatment of pneumonia with sulfanilamide. We accepted as true his reports, and at once reasoned that if true it must be that the drug, when given to a certain concentration in the blood, would act upon the capsule of the organism, just as does the serum that has been developed in the blood stream of the horse, rabbit or sick man.

Since that day, reports have come so constantly that there is neither room nor reason to doubt that sulfanilamide is curing many cases of pneumonia. So much is being written and printed on this subject that one can not keep up with it all. In fact, we see no reason why one should be expected to do so. Suffice it to say that, at long last, we have found a remedy that may be administered orally and a life may be saved. This is bound to be true unless, as has been said, "all men are liars." Still more recently, reports reach us from London that a newer compound belonging to the sulfanilamide group has been tried that seems to be far more efficacious than sulfanilamide.

It appears that a drug company, May and Baker, gave order to its chemists to tear sulfanilamide apart much as a boy might tear apart a house that had been constructed of toy building blocks, and reconstruct of the same blocks another building differing from the first. This they did time after time. Each succeeding compound was subjected to animal experimentation and each experiment proved to be a failure until 692 new compounds had been made and cast aside as worthless for the purpose wanted. But, lo! compound 693 worked. And now we are told that May and Baker 693 has been found to be far more effective in treating pneumonia than is sulfanilamide. The drug has been placed on the market under the name of sulfapyridine. It now appears that even

the deadly type III pneumococcus yields under sulfapyridine administration, thus further reducing the death rate by five per cent or more. Of course the use of both sulfanilamide and the newer drug is attended with some risks and should be carefully watched. It is hardly necessary that we should mention the undesirable effects and symptoms resulting from their use (in some cases). These are too well known to make it needful for us to do so. But we shall say that if many of the claims that are being made for these drugs are proven true, and no new dangers are found to exist, then, indeed, the most wonderful medical discovery of all the ages would seem to have been made. With the promise of a prophylactic vaccine in the near future, may it not be that death from pneumonias may soon be practically marked off the score? Are these claims too good to be true? Let us hope and pray.

SUMMARY

Pneumonia is one of the three great killer diseases. One hundred thousand lives are destroyed annually by it in the United States, and the death rate is not less than forty per cent. Prior to 1910-13 no specific treatment for pneumonia had been devised. About that time it was shown that there are four types of pneumococci (old classification). Most deaths result from types I and II infection. Less than ten per cent of lobar pneumonia cases are due to type III infection. Most of these die. Thirty per cent of cases (or more) are due to type IV infection. Most of these recover. No case can be positively and scientifically treated with serum unless the infecting organism has been specifically typed. This procedure can be carried out by any competent physician after a little study and some practice. Error in diagnosis accounts for the low death rate reported by some men. The death rate can be cut in half by proper use of serum. Serum weakens the capsule and prepares the organism for digestion by the phagocytic blood cells. Proper use of sulfanilamide is probably more effective than specific serum. A new arrangement of molecules has produced a new compound belonging to the sulfanilamide group that, probably, will prove more effective than sulfanilamide. The death rate may be expected to fall from a high of forty per cent to a low of probably eight or ten. If, as claimed by workers at the Rockefeller Foun-

dation, a prophylactic vaccine is about to be available, then, indeed, we may hope that pneumonia is soon to be conquered if not eliminated.

Let our program be: Devotion to duty, hope, study, work and progress.

A NEW TECHNIQUE FOR THE BLOOD SEDIMENTATION TEST*

By
CLYDE BROOKS, Ph. D., M. D.
New Orleans, La.

The complexities and difficulties of the blood sedimentation test as it is generally performed have tended to restrict its use. A

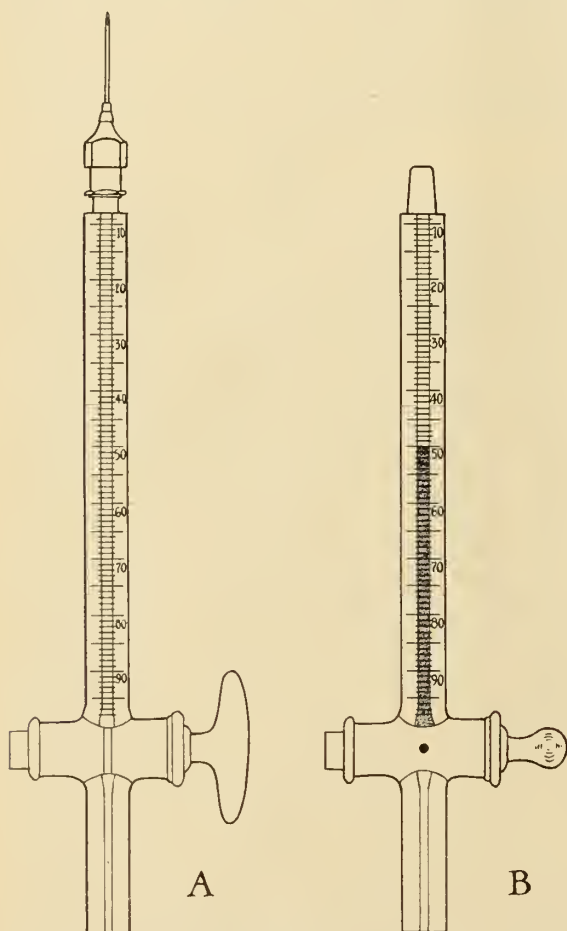


Fig. 1. A. Empty pipette, with needle attached, ready to be filled. B. Pipette with needle removed, filled with blood in process of sedimentation.

*Read before the Association in annual session, Montgomery, April 19, 1939.

From the Department of Pharmacology and Experimental Therapeutics of the School of Medicine of Louisiana State University.

new method is therefore presented which is less complex and less difficult.

This method consists essentially of three steps: 1. Filling a pipette with blood directly from the vein; 2. Setting the tube immediately in the vertical position in a holder; 3. Observing the sedimentation for one hour or more, and plotting the results on a chart.

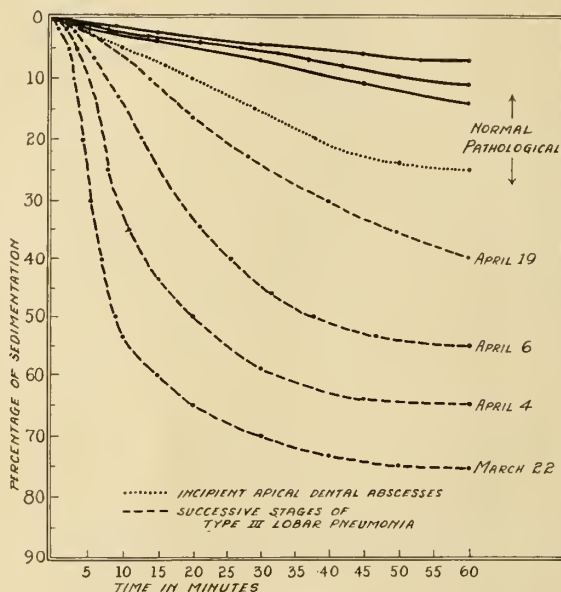


Fig. 2. Typical normal and pathological sedimentation curves plotted on a chart.

The pipette is a straight glass tube of uniform bore (1 to 1.5 mm.), with the tip at one end ground to fit a hypodermic needle. The tube is divided into two unequal limbs by a stopcock, which cuts its lumen at exactly 100 mm. from the extreme end of the ground glass tip. The longer limb is graduated in mm., zero being at the extreme end of the ground glass tip, and the 100 mm. mark at the exact point at which the lumen is cut by the stopcock. The shorter limb, which is about 30 mm. in length, is not graduated.

The test is performed as follows: The graduated limb of the pipette is filled with anticoagulant, all of which is blown out except the thin film adherent to the inside of the tube. The graduated limb is then filled by inserting the needle into a vein and permitting the blood to flow into the tube by its own pressure. Therefore no suction is needed. As soon as the tube is filled just beyond the 100 mm. mark, the cock is closed, cutting off the lumen exactly at the 100 mm. mark; the column of blood held in the tube is thus exactly 100 mm. long. The needle is

quickly removed, and the tube immediately set up in the vertical position in a holder. The sedimentation is observed for an hour or longer and the results are recorded on a chart.

The method is simple, automatic, direct, and precise. Its employment should encourage a wider use of the blood sedimentation test.

REFERENCES

Brooks, C.: A New Method and a New Pipette for Measurement of Rate of Sedimentation of Red Blood Corpuscles, *J. Lab. & Clin. Med.* 21: 971, 1936.

Brooks, C., and Dorfman, R. I.: The Accuracy of a New Technic for Measurements of Red Blood Corpuscle Sedimentation, *J. Lab. & Clin. Med.* 22: 510, 1937.

SULFAPYRIDINE

ITS USE IN PNEUMOCOCCIC INFECTIONS

By

HUGHES KENNEDY, M. D., F. A. A. P.

And

J. SAMUEL SMITH, M. D.

Birmingham, Ala.

It is frequently said that the medical profession seems more interested in etiology, diagnosis and pathology than it is in treatment. This erroneous impression has apparently resulted from the scarcity of specific therapeutic agents. The advent of sulfanilamide three years ago aroused new interest in chemotherapy. Now still another new drug appears on the medical horizon. It is a pyridine derivative of sulfanilamide. Its claim to notoriety lies in its supposed efficacy in the treatment of the pneumococcic infections. While it has been called daganan and M & B 693, the Council on Pharmacy and Chemistry of the American Medical Association has officially named it sulfapyridine.

When the study embraced in this paper was started the latter part of December, 1938, the reports in the literature were chiefly from England where Whitby had had most favorable results. Recently numerous favorable reports have appeared in the American journals.

Perrin Long makes the following statement: "Our experience would lead us to be-

lieve that the drug is about as efficient as sulfanilamide in the treatment of experimental streptococcic, meningococcic and *Clostridium welchii* infections in mice and somewhat superior to sulfanilamide in the treatment of experimental pneumococcic, Friedlander's bacillus and staphylococcic infections in mice." He further states that "the toxic manifestations of the drug seem to be no less severe and no less frequent than those witnessed in the course of sulfanilamide therapy." Other writers have stated that sulfapyridine is only one-fourth as toxic as sulfanilamide. This variation in opinion may be due to the irregular absorption of the drug on account of its low solubility.

The toxic effects are similar to those found with sulfanilamide, namely, vomiting, cyanosis, methemoglobinemia, acute hemolytic anemia and agranulocytosis. Nausea and vomiting are probably more prominent than with sulfanilamide. On account of its low solubility, 1 part in 1000, it must be given by mouth. Both Hartmann and Long have mentioned a soluble sodium salt of sulfapyridine for intravenous use. However, no reports have been made as to its actual use. The drug is apparently bacteriostatic rather than

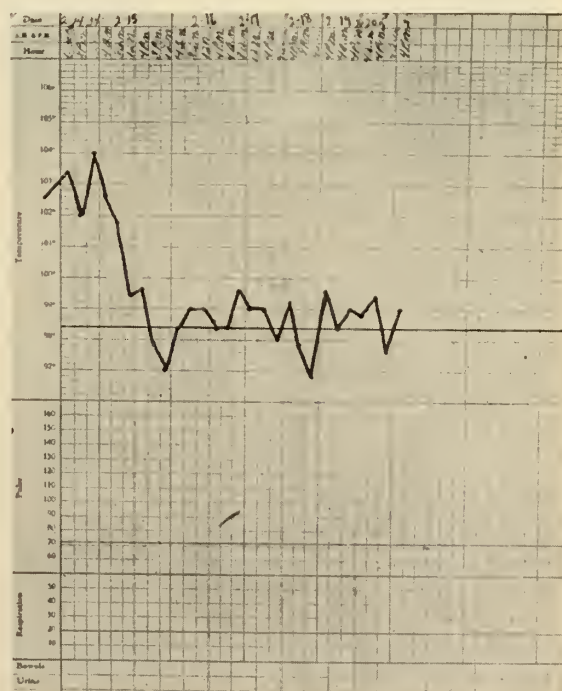


Fig. 1. M. E. 7 years. Shows typical chart. 0.5 gm. sulfapyridine every 4 hours was started on admission with above results. The child had been sick about 4 days.

*Read before the Association in annual session, Montgomery, April 18, 1939.

bactericidal. It seems to affect the pneumococcus capsule so that the natural body mechanism can attack the organism.

Hartmann recommends the following dosage:

1-3 mos.	0.15 gms. every 4 hours
6-12 mos.	0.30 gms. every 4 hours
2 yrs.	0.30 gms. every 3 hours
5 yrs.	0.60 gms. every 4 hours
12 yrs.	0.90 gms. every 4 hours

The first dose should be doubled. These doses are slightly larger than those recommended by Evans and Gaisford.

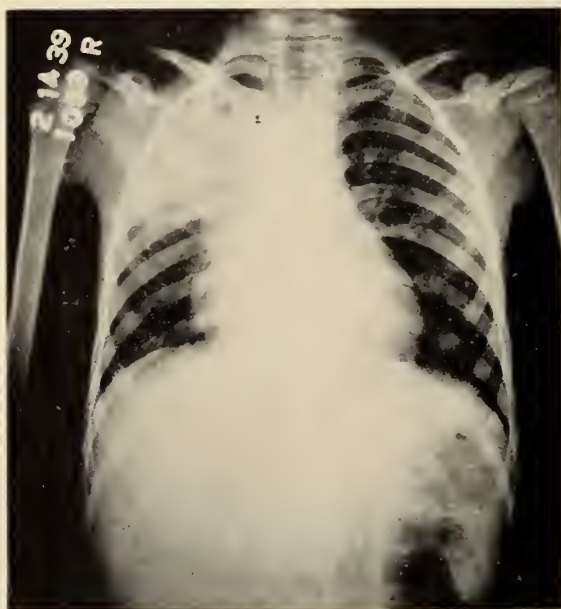


Fig. 2. Case No. 4. Shows roentgenogram on admission, Feb. 14, 1939. Same as Fig. 1.

In the present study, we are reporting 43 cases—36 children and 7 adults. This study was made possible by the generous donation of daganan by Merck and Co. to the Children's Hospital. We have had some hesitancy in making this report on account of the small number of cases in which the pneumococcus could be typed. However, we became bolder when Hartmann made his contribution, reporting the same difficulty and relying on the clinical and x-ray diagnosis of pneumonia. The difficulty in typing children is due to the fact that the samples of sputum are small and unsatisfactory to the laboratory. It is important that the pneumococcus be typed before beginning the drug since it interferes with successful typing.

We are including the seven adults only because they were treated with sulfapyridine obtained from the Children's Hospital and

because five of the seven cases were successfully typed, materially increasing our typed cases. None of the adults was seen by the authors.

The ages of the 36 children varied from 6 months to 12 years, 18 being two years or under. The adults were 29 to 84 years. This 84 year old woman showed a rather dramatic response. There were four deaths which will be discussed later, two babies 12 and 17 months of age, and two adults.

The pneumococcus was typed in 16 cases. Only one of the typed cases died, an adult, type XIV.

Type I	6 cases
Type II	2 cases
Type III	1 case
Type V	1 case
Type VII	1 case
Type VIII	2 cases
Type XIV	3 cases

X-rays were taken in 36 cases, pneumonia being confirmed in 33. In five cases sulfapyridine was started on the first day, and in 20 cases on the second day. The drug was given on an average of four days. In only four cases was it stopped permanently on account of vomiting. In the other cases, the patients seemed so well, and since the supply of sulfapyridine was limited, the drug was discontinued. Vomiting occurred in 25 cases. However, it was present in some of these before the drug was started. It was not made worse and did not seem to interfere with the drug's administration. It has been suggested that the duodenal tube be used where persistent vomiting occurs. Suspension in milk or apple sauce seems to aid in its retention.

The short length of time that the drug was given seems to fit in with the supposed mechanism of its action. If it affects the pneumococcal capsule so that the normal body processes can better attack the organism, this body mechanism should be reinforced within four days from treatment (since it was usually started on the second day) by the normal increase in antibodies which usually will result in the crisis in children in four to seven days.

Definite cyanosis was noticed in six cases. In each case, it cleared up when the drug was stopped. There was such a wide variation in the white cell count that no discussion will be attempted. Suffice it to say that no agranulocytosis or hemolytic anemia occurred. Attention is called to Case No. 28

where the cell count rose from 4,950 to 11,750 and to Case No. 10 where the pneumonia was successfully treated with the white count ranging from 700 to 2,000.

None of these cases developed empyema except Case No. 38, an adult who had only 3 doses. Five children developed otitis media in the hospital. Five had otitis media on admission. They seemed to run about the usual course, irrespective of sulfapyridine. The pneumococcus was not obtained from any of the ears. When cultured, a staphylococcus was obtained.

DEATHS

Case No. 8 was 12 months of age. He was seen within twelve hours of onset and sulfapyridine was started at once. Clinically, his pneumonia was limited to the left apex. Within the next eight hours, he developed marked abdominal distention, was cyanotic, and respirations were labored. Toxemia was extreme. He was put in an oxygen tent. He had the expected drop in temperature but it promptly rose again and signs of bronchopneumonia were present in the right apex. He received two transfusions of 100 cc. each. Typing was unsuccessful. He died early on the third day.

Case No. 30 was 17 months of age. On admission, he had had retraction of the neck for 24 hours. Spinal puncture revealed cloudy fluid with cell count of 1,900. A smear showed gram-positive diplococci re-

sembling pneumococci. However, they were never grown on culture. The patient was critically ill. Sulfapyridine, 1.5 gms. daily, was started immediately. The following day he seemed more toxic, and the spinal fluid cell count was 6,700. Smear showed numerous large bacilli but again there was no growth on culture. Rapid improvement then started, and four days after admission the spinal fluid cell count was 180. Six days after admission the drug was discontinued as the patient seemed so well. Within thirty-six hours, the temperature began rising and went to 103.8 in twelve hours. No organisms could be found on smear or in culture. Sulfapyridine was started again with immediate fall in temperature and four days later the patient's condition was excellent. He had a right otitis media on admission which had continued. Following reduction in the sulfapyridine, a relapse again occurred which was relieved by resumption of the drug. The ear was getting worse and signs of hydrocephalus were developing. In spite of continuous use of the drug from this time on, the patient continued to become worse, developed convulsions and died thirty-eight days after admission. The gram-positive diplococci and large bacilli were repeatedly found on smear but never could be cultured.

Case No. 38 was 34 years old. She had been sick 7 days before the sulfapyridine was started. She had type XIV. The pneumonia seemed to be spreading. She had had considerable nausea. After 5.0 gms. of sulfapyridine in three doses, she developed more severe nausea and vomiting. After the last dose, she retained nothing by mouth for twenty-four hours. Her temperature dropped from 103 to 100 in twelve hours from the first dose. However, when the drug was discontinued, it promptly rose again. The pneumonia continued its spread. She developed an empyema and a pneumococcus meningitis and died. Death was eight days after the sulfapyridine was stopped.

Case No. 40 was 66 years old. He was admitted to the hospital as a cardiac patient. While in the hospital, he developed pneumonia. Sulfapyridine was started on the second day. Within 28 hours, the temperature dropped from 104.8 to 99. He seemed to be recovering from his pneumonia, with essentially normal temperature. However, forty-eight hours after the temperature became normal, he died a cardiac death.

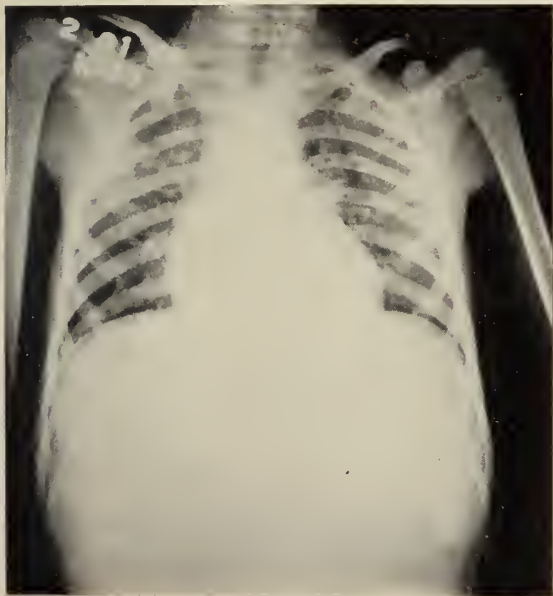


Fig. 3. Shows roentgenogram of Case No. 4 on Feb. 21, 1939.

OTHER INTERESTING CASES

Case No. 10, a white female, 4 years of age, is of special interest. She entered the hospital Feb. 23, 1939 in an aleukemic stage of myelogenous leukemia.

On admission, she was very toxic, with temperature of 105, and rapid labored respirations. She was extremely pale and was bleeding slightly from the left naris and left ear. The tonsils were moderately enlarged but not acutely inflamed. There was no general glandular enlargement. Heart rapid, no murmurs. There was impaired resonance, suppressed breathing with a few fine rales at the left base, posteriorly, and in the left axilla. The abdomen was markedly distended and tender. No viscera could be palpated on account of the distention. There was a small abscess on the back of the neck. Reflexes negative.

Hemoglobin 29%; red blood count 1,580,000; white count 1,650; polymorphonuclears 24%, lymphocytes 72%, large mononuclears 4%. No malarial parasites were found. X-ray showed some clouding at the left base. In spite of the leucopenia, 1.0 gm. of sulfapyridine was given immediately and then 0.5 gm. was given every three hours. She was also given 300 cc. of blood intravenously; and 1.0 cc. liver extract intramuscularly was started twice a day. In twenty-four hours, the temperature was 99.2. She looked much better and the abdomen was softer. Hemoglobin 48%, red count 2,510,000; white count 900. Another 300 cc. of blood were given. At 8 A. M. on the 25th, forty-four hours after admission, the temperature was 99.0, having been 100 or under for twenty-four hours. She was not bleeding any but there were some purpuric spots on her neck. Hemoglobin 72%; red count 3,610,000; white count 750; polys. 58%, lymphocytes 42%. On account of the very low white cell count, the sulfapyridine was discontinued. It was interesting to note that the granular cells were increasing. There was no agranulocytosis. In the stained smear, the white cells seemed to be normal. Attempts to isolate the pneumococcus from the sputum were unsuccessful. On the 26th, the patient seemed much better. The left lung was clearing and for the first time the abdomen was soft enough to feel the spleen two inches below the costal margin. The liver was just palpable. The white count was 800, with 50% each of polymorphonuclears and lymphocytes. At 4 P. M., thirty-two hours after the

sulfapyridine was discontinued, the temperature rose to 102 and then to 103.4. It dropped to 99.6 and then the following day to 104. The

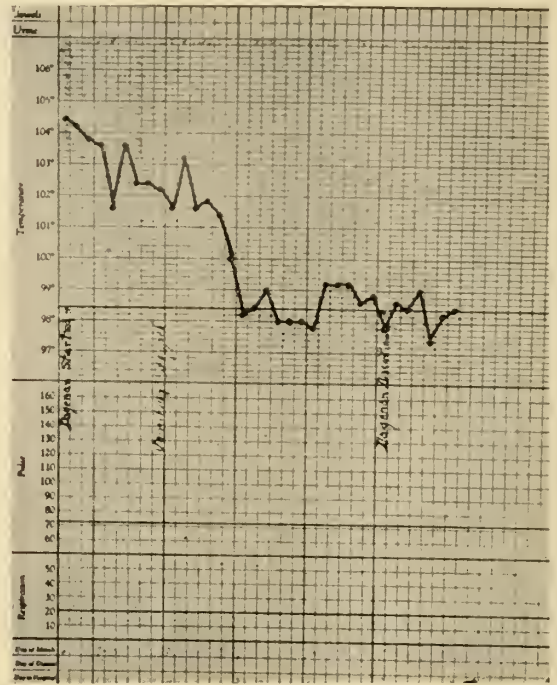


Fig. 4. D. G. 7 years. Case No. 7. Had been sick 2 days. Sulfapyridine, 0.5 gm., was started on admission. Severe vomiting caused loss of drug for thirty-six hours when it was controlled by intravenous glucose. Then the temperature fell promptly.

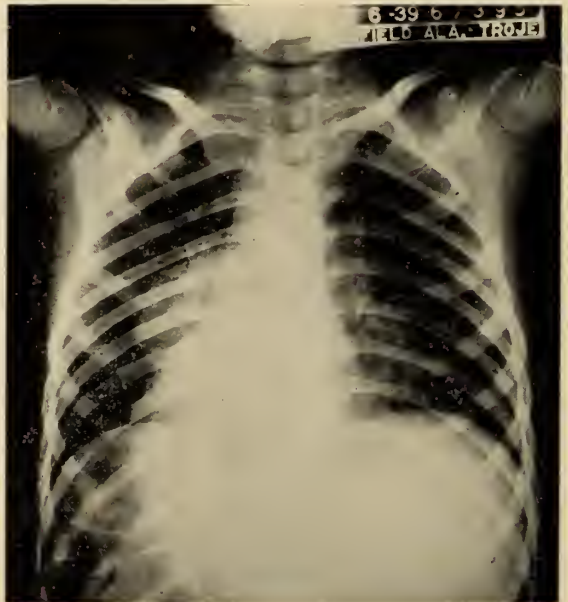


Fig. 5. Roentgenogram of Case No. 7 on admission. Shows early pneumonia on the left. This promptly cleared up.

left base was more solid again and there were many fine rales. Again the abdomen was distended and tender. The same dose of sulfapyridine was resumed. This was the 28th. The temperature rose to 100.8, then fell below 100 and remained there.

There was considerable nausea and vomiting on admission but this did not interfere with the administration of the sulfapyridine. There was some cyanosis as long as the drug was given.

She was discharged from the hospital on March 19th. She was running around the ward, looked well and was eating well. The liver was two inches below the costal margin and the spleen was just palpable. Hemoglobin was 68%; the red blood count 3,090,000; the white count 5,050—with 52% polymorphonuclears, 42% lymphocytes and 6% large mononuclears.

The interesting part of this case is that the pneumonia cleared up promptly with sulfapyridine in spite of the severe blood dyscrasia. We regret that we could never isolate the infecting organism.

Case No. 14 is of interest on account of a recurrence. He was 16 months old. On admission, he had a clinical pneumonia at the right apex. This was confirmed by x-ray. However, the x-ray also showed some clouding in the left axilla. Following administration of sulfapyridine, the temperature fell from 104 to normal in twenty hours. The right apex cleared up promptly. The patient was discharged on the eighth day but his mother failed to come for him. On the tenth day, his temperature suddenly rose to 104.8. He had severe pain in his left chest and he was coughing. A friction rub and signs of consolidation were heard in the left axilla. X-ray showed a pneumonia in this area with the right apex having cleared up. His temperature fell to normal within twelve hours after the sulfapyridine was resumed.

COMMENT

We have reported forty-three cases of clinical pneumonia that were treated with sulfapyridine. With two exceptions, the results were rather dramatic. In the one case that showed no improvement, No. 8, we could not determine the infecting organism. It may not have been a pneumococcus. In Case No. 38, the temperature fell promptly but, unfortunately, the drug had to be discontinued on account of severe vomiting. In a single case of meningitis, No. 30, which seemed to

be of pneumococcus origin (though not proved), the patient was apparently greatly benefited on two different occasions. However, when a hydrocephalus developed, the drug seemed to have no further benefit.

We realize fully the variations in lobar pneumonia. Many cases show improvement soon after entering the hospital. An early crisis seems to occur not infrequently. However, we feel that it would be stretching coincidence to the extreme to state that all of these cases were coincidences. Sulfapyridine must have been the determining influence in the majority if not all of the cases. We believe that the drug should be continued in spite of vomiting, unless it is quite evident that all of the drug is being lost. Parenteral fluids should be used in combating the vomiting. The duodenal tube should be tried. It was our experience that the ordinary ear complicating the pneumonia was little affected by sulfapyridine. Cyanosis from the drug caused no concern.

We feel that a great drug has been added to our armamentarium. However, it should be used with caution and discretion. The patients should be kept under close observation for any possible ill effects.

REFERENCES

1. Whitby, L.: *Lancet* 1: 1210, 1938.
2. Whitby, L.: *Lancet* 2: 1095, 1938.
3. Telling, Maxwell; and Oliver, W. A.: Case of Massive Pneumonia, Type III, *Lancet* 1: 1391, 1938.
4. Dyke, S. C., and Reid, G. C. K.: Treatment of Lobar Pneumonia with M & B 693, *Lancet* 2: 1157, 1938.
5. Dyke, S. C.: Pneumococcal Septicemia Treated with M & B 693, *Lancet* 2: 621, 1938.
6. Agranat, M. D., Dreosti, A. O., and Ordman, D.: Treatment of Pneumonia with 2-(p-aminobenzenesulphonamido) Pyridine (M & B 693), *Lancet* 1: 309, 1939.
7. Idem. *Lancet* 1: 380, 1939.
8. Evans, G. M., and Gaisford, W. F.: *Lancet* 2: 14, 1938.
9. Barnett, H. L., Hartmann, Alexis F., Perley, Annie M., and Ruhoff, Mary B.: The Treatment of Pneumococcal Infections in Infants and Children with Sulfapyridine, *J. A. M. A.* 112: 518 (Feb. 11) 1938.
10. Flippin, Harrison F., Lockwood, John S., Pepper, D. Sergeant, and Schwartz, Leon: The Treatment of Pneumococcal Pneumonia with Sulfapyridine, *J. A. M. A.* 112: 529 (Feb. 11) 1939.
11. Long, Perrin H.: Sulfapyridine, *J. A. M. A.* 112: 538 (Feb. 11) 1939.
12. McColl, W. A.: Clinical Experience with Sulfapyridine, *J. Pediat.* 14: 277 (March) 1939.

Case No.	Age	Diagnosis	Organism	Days of Illness Before Treatment	Dosage of Drug (Gm.) Daily	Days of Treatment	Temperature Response	W. B. C.	Results	Comment
1	2 yrs.	Bronchopneumonia, rt. middle lobe Gen. bronchitis X-ray confirmed	Untyped	10	1.0 to 1.5	6	104-98.2 in 8 hours This was first patient to receive sulfapyridine. Had had temp. 99 to 104 for 10 days.	39,000 to 8,900	Recovered	Vomited. Had neoprontosil for 2 days without effect. Otitis media not affected by sulfapyridine; after discharge had temperature 103, with otitis media and cervical adenitis. No effect from neoprontosil. Temperature fell over night from sulfapyridine and glands rapidly disappeared. Ears dry in 2 days.
2	2 yrs.	Lobar pneumonia, rt. upper lobe X-ray confirmed	?	4	1.5	3	104.4-98.8	51,600	Recovered	Moderately toxic, with otitis media. Temperature to 105.4. Prompt recovery with sulfapyridine. Vomiting.
3	8 yrs.	Lobar pneumonia, rt. lower lobe X-ray confirmed	Type V	3	3.0 to 4.5	4	105-98.4	27,700 to 15,700	Recovered	Patient was very toxic. Marked abdominal tenderness and distention. Severe vomiting, being controlled by glucose intravenously. Retained sulfapyridine with rapid fall in temperature. Abdomen improved with fall in temperature.
4	7½ yrs.	Lobar pneumonia, right upper lobe X-ray confirmed	?	4	3.0	2	104-99.4 in 12 hours	25,000 to 10,200	Recovered	Prompt recovery. Vomited.
5	4 yrs.	Lobar pneumonia, rt. lower and right middle lobe X-ray confirmed	?	2	3.0	6	105-99.2 in 28 hours	10,200 to 12,000	Recovered	Moderately toxic. Very prompt response to treatment.
6	8 yrs.	Lobar pneumonia, right upper lobe X-ray confirmed	Untyped	2	3.0	3	104.8-99 in 28 hours	26,250 to 10,000	Recovered	Some cyanosis and vomiting.
7	7 yrs.	Lobar pneumonia X-ray confirmed	Type II	2	3.0	5	104.4-98.2 in 60 hours	37,000 35,000 8,000	Recovered	First 36 hours patient vomited most of drug. Then vomiting controlled with glucose intravenously. Temperature dropped promptly.
8	12 mos.	Lobar pneumonia, left upper Rt. bronchopneumonia X-ray confirmed	?	1	1.5	2	104-106	22,700 to 25,400	Expired	Temperature fell from 104 to 100 in 12 hours, as in other cases. In another 8 hours, rose to 104 and showed signs of bronchopneumonia in right lung. Had otitis media on admission. Cyanosis but no vomiting. Put in oxygen tent. 100 cc. citrated blood by transfusion on 2nd and again on 3rd day. No improvement. Expired on 3rd day.
9	4½ yrs.	Lobar pneumonia, right middle lobe X-ray confirmed	?	2	2.0	4	105.2-99.8 in 36 hours	10,000 to 9,700	Recovered	On admission very toxic. Rapidly improved under treatment.
10	4 yrs.	Lobar pneumonia, left lower X-ray confirmed	?	3	2.5 to 4.0	19	See special protocol	1,650 to 6,500	Recovered	See special protocol.
11	2 yrs.	Bronchopneumonia X-ray confirmed	?	1	1.5	1	103.6-98.8	8,500	Recovered	Admitted with convulsions, high fever. Patient also had otitis media. On 3rd day after drug discontinued otitis media recurred. Temperature 102-105; drug not resumed.
12	7 yrs.	Lobar pneumonia, right upper lobe X-ray confirmed	?	4	2.0 for 24 hours 4.0 for 48 hours	3	105.4-99 in 32 hours	46,750	Recovered	On admission, very toxic, with high fever. Rapid response to treatment. Discontinued on 3rd day because of sweating. Mild cyanosis.
13	6 mos.	Lobar pneumonia, right upper lobe X-ray confirmed	?	2	.75	3	104.6-100	19,000	Recovered	Very toxic. Had asthma. Prompt response to treatment.

Case No.	Age	Diagnosis	Organism	Days of Illness Before Treatment	Dosage of Drug (Gm.) Daily	Days of Treatment	Temperature Response	W. B. C.	Results	Comment
14	16 mos.	Lobar pneumonia, right upper lobe and left lower lobe X-ray confirmed	?	2	1.5	3	104-99.8	21,000 to 32,800	Recovered	Patient moderately toxic. Responded to treatment promptly. X-ray on admission showed consolidation in right upper lobe and some in left lower lobe. This cleared up clinically. On 10th hospital day, patient developed high fever, intense pain. Respiratory grunt. Typical lobar pneumonia of left lower lobe. X-ray findings positive. Clinically o.k. in 12 hours after sulfapyridine resumed.
15	8 yrs.	Lobar pneumonia, lower right X-ray confirmed	Type I	?	2.0	3	105-100 in 16 hours	27,750 to 9,900	Recovered	Left otitis media. showed staphylococcus on culture. Slight nausea.
16	6 yrs.	Lobar pneumonia, left lower lobe X-ray confirmed	Type VII	3	3.0	2	104-99.4 in 16 hours	28,950	Recovered	Moderately toxic. No physical signs early. Prompt response to treatment. Vomiting.
17	7 yrs.	Lobar pneumonia X-ray confirmed	Type XIV	3	3.0	3	103.2-99 in 16 hours	17,500 to 7,500	Recovered	Moderately toxic. Prompt response to treatment.
18	2 yrs.	Lobar pneumonia, right lower lobe X-ray confirmed	?	6	1.5	4	103.6-99.2	26,700 to 16,000	Recovered	Spiked temperature. Quite toxic. Prompt response to treatment.
19	2 yrs.	Lobar pneumonia, left lower lobe X-ray confirmed	?	6	1.5	2	105-99 in 12 hours	19,600 to 15,400	Recovered	Very prompt return to normal. Vomiting.
20	18 mos.	Lobar pneumonia, right lower lobe X-ray confirmed	Type XIV	2	1.5	5	105-98.8 in 28 hours	21,500 to 20,000	Recovered	Very sick child. Prompt response to sulfapyridine. Child developed a purulent otitis while still on sulfapyridine. Culture staphylococcus
21	8 mos.	Bronchopneumonia X-ray confirmed	?	2	1.0	8	103.4-99.4 in 24 hours	8,950 to 15,950	Recovered	Moderately toxic. Child developed otitis while on sulfapyridine. Purulent drainage 1 month.
22	2 yrs.	Lobar pneumonia X-ray confirmed	?	1	1.5	2	104.4-98.8 in 8 hours	26,900 to 8,050	Recovered	Prompt recovery.
23	2 yrs.	Lobar pneumonia, right lobe	?	3	3.0	2	104 dropped to normal in 12 hrs.	23,600	Recovered	Prompt recovery in 12 hours.
24	21 mos.	Bronchopneumonia No x-ray	?	1	1.5	2½	103 to normal in approx. 12 hours	32,200 to 12,200	Recovered	Sulfapyridine caused prompt improvement, but was stopped because of vomiting.
25	6 yrs.	Lobar pneumonia, left lower lobe No x-ray	?	1	3.0	2	104-98.8 in 24 hours	16,650	Recovered	Responded to drug very nicely. Broke out with typical scarlet fever next day. Some rash before drug was begun. Dismissed from hospital.
26	21 mos.	Lobar pneumonia, left lower lobe No x-ray	?	2	1.5	2	104.4-99.4 in 16 hours	27,500 to 7,300	Recovered	Very prompt recovery.
27	8 yrs.	Lobar pneumonia, X-ray confirmed right middle lobe	Type I	2	3.0	2	104.4-99.4 in 12 hours	10,100	Recovered	Prompt recovery. No complications. Vomiting.
28	12 yrs.	Lobar pneumonia, both lower lobes X-ray confirmed	Type I	4	2.0 to 4.0	5	104-99.8 in 40 hours	4,950 to 11,750	Recovered	Very toxic, cyanotic, markedly dyspneic. Low w.b.c. Both lower lobes consolidated. Under oxygen tent and began sulfapyridine. Within 12 hours patient was very much better and within 40 hours temperature had returned to normal.

Case No.	Age	Diagnosis	Organism	Days of Illness Before Treatment	Dosage of Drug (Gm.) Daily	Days of Treatment	Temperature Response	W. B. C.	Results	Comment
29	16 mos.	Lobar pneumonia, right upper lobe X-ray confirmed	?	2	1.5	5	103-99.8 in 28 hours	29,000	Recovered	Moderately toxic, also had otitis media. Temperature returned to normal in 18 hours. Vomiting.
30	17 mos.	Pneumococcus meningitis	?	2	1.5	35	See special protocol	8,300	Expired	See special protocol. Spinal fluid 2.0-2.5 mg. sulfapyridine.
31	6 yrs.	Lobar pneumonia, right lower lobe X-ray confirmed	Type not in 1 to 8	2	3.0	3	104.6-99.8 in 36 hours	27,500 17,000 13,000	Recovered	Prompt recovery.
32	1 yr.	Bronchopneumonia X-ray confirmed	Type II ?	2	3.0 $1\frac{1}{2}$ day 1.5 $1\frac{1}{2}$ days	?	102-99.2 in 12 hours	20,250 16,000	Recovered	Prompt recovery from pneumonia. Complication—otitis media.
33	6 mos.	Lobar pneumonia, right middle lobe X-ray confirmed	Type III	4	1.5	7	103-105 in 12 hours	10,600 6,000 Poly. 72-28	Recovered	Some cyanosis. Vomited, did not have to stop drug. After initial temperature fall, rose to 102 then normal in 72 hours.
34	18 mos.	Lobar pneumonia, left lower lobe X-ray confirmed	?	3	1.5	3	104-98.6 in 14 hours	29,000 21,000	Recovered	Vomited. Developed otitis media.
35	12 yrs.	Lobar pneumonia, right upper lobe No X-ray	Type I	3	3.0	5	105.6-99 in 36 hours	22,000 7,650	Recovered	Vomited. Rapid recovery.
36	10 mos.	Lobar pneumonia, right upper lobe X-ray confirmed	?	5	1.5	6	105-99 in 48 hours	12,500 8,400	Recovered	Bilateral otitis media.
37	35 yrs.	Lobar pneumonia, lower left lobe	Type VIII	2	2.0 5.0	4	104-100 in 14 hours	19,760	Recovered	Nausea and vomiting. Very toxic and irrational. Rapid recovery.
38	34 yrs.	Lobar pneumonia, entire right side eventually X-ray confirmed Pneumococcus meningitis	Type XIV	7	5.0	1	103-100 in 12 hours	16,550	Expired	After 5 gms. of sulfapyridine in 3 doses, patient began vomiting. Sulfapyridine was discontinued. Patient had vomited some before drug started. Temperature fell 103 to 100 in 12 hours. When drug stopped, temperature rose rapidly again and more lung involvement appeared. After last dose, retained nothing by mouth for 24 hours. Developed pneumococcus meningitis and died 9 days after sulfapyridine was stopped.
39	29 yrs.	Lobar pneumonia, left lower lobe No x-ray	Type I	2	4.0	3	105-100 in 44 hours	16,800 17,800	Recovered	Drug was discontinued on account of persistent vomiting. Temperature rose again to 104 and then fell rapidly.
40	66 yrs.	Lobar pneumonia, left upper & lower lobe X-ray confirmed	Untyped 1-8	2	7.5 9.0	3	104.8-99 in 28 hours	22,000 19,600	Expired	No vomiting. Seemed to be recovering from pneumonia. After 48 hours, temperature essentially normal. Died cardiac death. Had originally been admitted to hospital as cardiac patient.
41	30 yrs.	Lobar pneumonia, left upper and lower lobe No x-ray	Type I	2	3.0 6.0	4	103-100 in 48 hours		Recovered	Immediate improvement and recovery.
42	84 yrs.	Lobar pneumonia, right lower lobe X-ray confirmed	Neg. 1-8	2	3.0	4	102-97.2 in 12 hours	27,450 10,000	Recovered	Vomited. Improvement was rapid.
43	35 yrs.	Lobar pneumonia, left upper and right upper lobe No x-ray	Type VIII	2	6.0	3	104-98 in 12 hours	24,000 7,000	Recovered	Also had 100,000 units of type VIII serum. Rapid recovery.

ACUTE PURULENT PERICARDITIS

REPORT OF CASE*

By

J. OWEN FINNEY, M. D.

And

J. O. MORGAN, M. D.

Gadsden, Alabama

This paper is concerned with the diagnosis and treatment of the acute phase of purulent disease of the pericardium, and the report of an instance. The various non-purulent disorders with which this structure may at times be affected will not be considered.

The pericardium was stated by Osler¹ to be one of the most frequently overlooked sites of suppuration. In spite of modern diagnostic methods, statistical surveys show it to be recognized with relative infrequency even now. Cabot² reports that 75% of all autopsied cases of pyopericardium at the Massachusetts General Hospital had been unrecognized during life.

According to general opinion, acute purulent pericarditis is a rather rare occurrence. This view, however, is not substantiated by the results of the study of Pyrah and Pain.³ They found it to be present in 2.7% of all the cases autopsied at the Leeds General Infirmary from 1921 through 1931. Stone⁴ observed acute purulent pericarditis 44 times in a series of 300 autopsies done on patients who died following pneumonia.

It is found chiefly in the younger age groups. The review of Bisgard,⁵ which entailed a study of the 171 cases reported up to that time on whom a pericardiotomy had been done, showed 72% of the patients to be under 30 years of age with the male sex predominating 3 to 1. An earlier report by Winslow and Shipley⁶ gave similar figures.

ETIOLOGY

The majority of cases result as a complication of pneumonia, especially in the presence of empyema, with the pneumococcus being the commonest offending organism. It may occur in the course of osteomyelitis, in which instance the staphylococcus is usually found. Occasionally it may result in the course of septicemia, and here the etiologic agent varies. Direct trauma, as thoracic wounds in the precordial area, is responsible for a small number of cases.

PATHOLOGY

The pathologic findings are no different from those of an acute suppurative process of other serous surfaces except that the motion of the heart distributes the exudate in a peculiar pattern. It is laid down in concentric rings over the epicardium and pericardium. The amount of fluid is variable and its specific gravity will depend upon the duration of the disease. Organisms are usually demonstrated with ease.

SYMPTOMATOLOGY

Symptoms arising from the condition which preceded pericardial involvement frequently so predominate the picture that no suspicion is aroused relative to the existence of pyopericardium. This may in part account for the rarity with which it is recognized clinically.

The inflammatory insult to the pericardium itself contributes to the general systemic reaction. In the early stages pain over the precordium may be present. When such is the case the patient usually sits quietly erect in bed with a hand over the chest. It is with great difficulty that he may be encouraged to change his posture to even the slightest degree.

If fluid has accumulated within the pericardial cavity sufficiently to embarrass the diastolic phase of the cardiac cycle, symptoms of congestive heart failure will be expressed. The severity of these manifestations will depend upon the amount of fluid and the rapidity of its accumulation. In rapidly fulminating effusions cardiac tamponade may occur to such a degree that death will ensue in the absence of a promptly executed pericardicentesis.

Physical examination reveals an acutely ill individual. Varying degrees of dyspnea occur. Cyanosis is evident. Findings at-

*Presented to the Association in annual session, Montgomery, April 18, 1939.

From the Guice-Morgan Clinic and the Medical and Surgical Services of the Holy Name of Jesus Hospital, Gadsden.

1. Osler, Wm., and McCrae, T.: *The Principles and Practice of Medicine*. New York: Appleton, 1925.

2. Cabot, R.: *Facts on the Heart*. Philadelphia: W. B. Saunders Co., 1926.

3. Pyrah, L. N., and Pain, A. B.: *Lancet* 1: 905, 1933.

4. Stone, W. J.: *J. A. M. A.* 73: 254, 1919.

5. Bisgard, J. D.: *Am. J. Surg.* 17: 1, 1932.

6. Winslow, N., and Shipley, A. M.: *Arch. Surg.* 15: 317, 1927.

tributable to the associated disease are usually readily detected. If diligent, one will almost invariably hear a friction rub over the precordium. This is usually transitory and fleeting and auscultation may have to be repeated at frequent intervals.

If the patient is seen after an effusion has occurred, characteristic findings may be expected. Inspection of the precordium in children reveals a distinct bulge. The apex impulse, if seen, is one or two interspaces higher than the usual location. To palpation the impulse is weak and tapping. There is no shock or thrill. Percussion reveals enlargement to both left and right, being much more marked to the right than is usually encountered in cardiac enlargement. The most significant and conclusive single clinical finding is the relatively great distance that left border dullness extends beyond the apex impulse. Unfortunately, however, the apex impulse can neither be seen nor felt in the majority of cases. Auscultation reveals distant heart sounds and murmurs are usually not heard. With an effusion producing tamponade of the heart, signs of central circulatory failure will be present. Unfailing evidence of significant diastolic embarrassment is a high venous pressure and a low pulse pressure.

Certain associated lung findings are present in the absence of confounding pulmonary pathology. At the angle of the left scapula there are dullness, tubular breathing and increased voice sounds which result from compression of the lung. Below the left clavicle one finds tympanitic resonance with diminished breath sounds as a result of relaxation of the lung.

Pressure upon surrounding mediastinal structures may produce dysphagia, aphonia and an irritative cough. The pulse may or may not be paradoxical in character.

DIAGNOSIS

The one greatest aid in diagnosis is the ever-present thought that pyopericardium may occur as a complication of pneumonia (especially when associated with empyema), osteomyelitis, septicemia and precordial chest wounds. If the symptoms and signs just reviewed should occur during the course of any of these conditions, their significance should be immediately recognized.

The diagnosis may be no more than suspected in many cases until fluoroscopic ex-

amination of the chest, a pericardicentesis, or both, are resorted to.

Visualization of the chest with the fluoroscope reveals marked enlargement of the heart shadow to left and right; the cardiohepatic angle is obtuse. There is an increase in the width of the base as the posture is changed from erect to recumbent. Pulsations of the cardiovascular stripe are strikingly absent.

Pericardicentesis is certainly not without danger. Death has resulted from perforation of a coronary vessel. It is generally conceded, however, that it is reasonably safe to perform this procedure, in cases of purulent pericarditis, through the left costoxiphoid approach (Fig. 1). Through this route, danger of contaminating the pleura is slight. Moreover, one has the advantage of entering the sac at its most dependent portion.

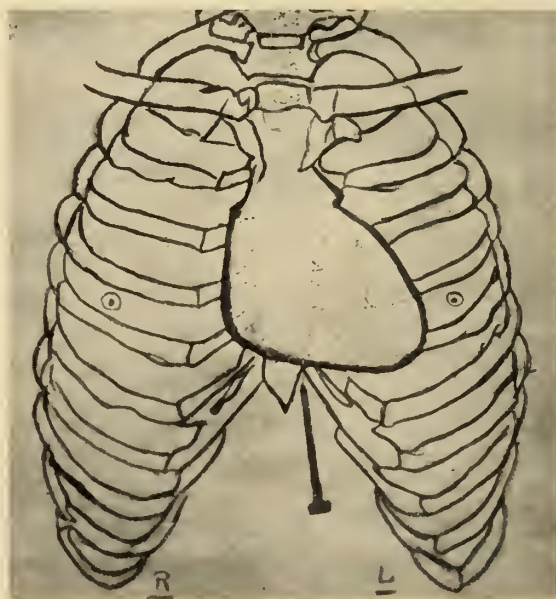


Fig. 1. The needle is inserted at the left costoxiphoid angle. The point is directed upward at a 45° angle. An ordinary spinal puncture needle may be used. It is a good plan to withdraw the stylet frequently until fluid is reached.

DIFFERENTIAL DIAGNOSIS

In the differential diagnosis one must consider a non-purulent effusion, marked cardiac enlargement, encapsulated empyema, subphrenic abscess, mediastinal abscess and a tumor of the mediastinum. A careful anamnesis, a thorough physical examination, expert roentgenologic interpretation, and, finally, pericardicentesis will be required in many cases to rule out the various possibilities.

TREATMENT

Very brief discussion will suffice as regards treatment. The mortality rate in cases on whom open drainage is not carried out may be said to be 100% for all practical purposes. Recovery has been reported in a few cases following paracentesis of the pericardium but such is extremely rare. All of the cases reviewed by Bisgard⁵ had had a pericardiotomy and the mortality rate was 45%. It follows then that the universal therapeutic demand, not choice, is prompt open drainage of the pericardium.

PROGNOSIS

As regards the immediate prognosis, patients may be said to have a fifty-fifty chance of survival if operated upon; almost none if not. Shipley and Winslow,⁷ after a very comprehensive review, cited certain factors that influence the immediate prognosis. These are:

1. The time of operation.
2. The type of organism.
3. The original condition of which pyopericardium is the complication.

By and large, the earlier the operation the more favorable is the outlook. Their



Fig. 2. Note the marked increase in the size of the cardiac shadow. The C. T. ratio is 1.4. Fluoroscopic examination revealed an absence of pulsations. The increased density of the left lung field was interpreted as being consistent with either unresolved pneumonia or compression of the lung. (The picture was reversed in printing.)

7. Shipley, A. M., and Winslow, N.: Arch. Surg. 31: 375, 1935.

study (Shipley and Winslow) revealed the highest percentage of recoveries in stab wounds of the chest where the infection is limited to the pericardial sac. The mortality rate in pneumococcal infections was found to be approximately 50%, unless empyema is associated (either before or after pericardiotomy), when it was significantly higher. Staphylococcal and streptococcal infections were shown to result in the highest mortality. These authors also pointed out that purulent foci elsewhere rendered the prognosis less favorable.

The remote prognosis may be said, on the whole, to be good. Shipley and Winslow,⁷ Shipley,⁸ Burwell,⁹ Bigger,¹⁰ and others believe it to be rare for constrictive pericarditis to follow purulent effusions. That it may occur in occasional instances is indicated by the experience of Blalock¹¹ and of White.¹² In view of this latent possibility, patients that may survive following pericardiotomy for pyopericardium should be followed at periodic intervals. Evidence of congestive heart failure with a small fixed heart and an elevated venous pressure will point to a constrictive sequel.

The great necessity for early recognition and treatment of acute purulent pericarditis stimulates the report of the following instance.

CASE REPORT

E. C., a 15 year old white male, was first seen by one of us (J. O. F.) on the medical service of the Holy Name of Jesus Hospital December 23, 1938, complaining of "pneumonia and pus on the lung." He dated the onset of the present illness to 17 days before when he had had a chill. This was soon followed by high fever, pain in the left chest and a cough, which became productive of bloody sputum. Fever and cough had continued and two days before admission orthopnea and cyanosis had been noted. The past, personal and family histories were irrelevant.

The physical examination revealed an acutely ill, orthopneic white boy with pallid cyanosis and a dry hacking cough. He was oriented and as co-operative as his condition would permit. The temperature was 101.2° F., the pulse could not be counted at the wrist but the apical rate was 120 per minute, and the respirations were 50 per minute. The systolic blood pressure was 100 mmg. Hg.; the diastolic, 90 mmg. Hg. The pulse pressure was 10. The skin was hot, dry and free from

8. Shipley, A. M.: The Cyclopedia of Medicine. Philadelphia: F. A. Davis Co., 1936.

9. Burwell, C. S.: Personal Communication.

10. Bigger, I. A.: South. M. J., 30: 164, 1937.

11. Blalock, Alfred: Personal Communication.

12. White, P. D.: Lancet 2: 539, 1935.

edema and lesions. The mucous membranes were moderately dry and pale but not otherwise remarkable. There was no local or general glandular enlargement. The head was essentially negative; no fullness of the retinal veins was detected. The trachea was in the mid line; the cervical veins were mildly distended in the sitting position but no abnormal pulsations were noted. The left lung expanded poorly, the right fairly well. The right lung field was clear. At the angle of the left scapula there was an area of increased fremitus, dullness, increased voice sounds and tubular breathing; beneath the left clavicle and extending through the left axilla to the posterior axillary line there was tympanitic resonance with diminished breath sounds; over the entire left lung medium moist rales were audible. The apex impulse of the heart was not seen or felt. There was no shock or thrill. Percussion of the cardiac outline revealed enlargement to both left and right; L. B. D. extending 2 cm. beyond the mid-clavicular line in the 5th space and R. B. D. extending 5 cm. beyond the right sternal border in the 4th space. The retromammary dullness measured 6.5 cm. The heart sounds were muffled and no murmur or rub was audible. The radial pulse was weak and faded completely on inspiration. The skeleton was not remarkable. The liver was enlarged, its lower border extending to a point just above the umbilicus; the edge was smooth, rounded and tender but no pulsations were felt. The genitalia were normal anatomically and no edema was noted. Rectal examination was negative. There was moderate cyanosis of the nail beds but no other abnormality of the extremities. The neurologic examination was negative.

Routine laboratory study revealed 4,290,000 red blood cells per cu. mm. The hemoglobin was 80%. The white blood cells numbered 17,600 with the differential showing 87% polymorphonuclear neutrophils and 13 mature lymphocytes. The urine was negative aside from a trace of albumen.

The clinical impression was unresolved pneumonia (left) and pericardial effusion (purulent?). This was confirmed by fluoroscopic examination and study of an x-ray film of the chest (Fig. 2).

On the evening of the day of admission a pericardiocentesis was done through a left costophrenic approach. 184 cc. of cloudy yellow fluid was obtained. This had a total white blood cell count of 20,400 per cu. mm. and polymorphonuclear neutrophils predominated. The specific gravity was 1.018. No organisms were found on a stained smear and a culture was sterile after 48 hours. There was prompt and rather marked improvement following release of the intrapericardial pressure, dyspnea was less marked and the patient rested with small amounts of morphine. During the next day, however, evidence of diastolic embarrassment again became apparent. Paracentesis of the pericardium was repeated with removal of 180 cc. of fluid which was similar in all respects to that previously described except that gram-positive lancet-shaped diplococci were demonstrated on a stained smear of the sediment. No attempt was made to type

these organisms.

The patient was immediately transferred to the surgical service and a pericardiotomy was done by one of us (J. O. M.) on December 26, 1938. The following technique was carried out:

"Under novocaine infiltration and a small amount of general anesthesia, an incision was made from a point 1 cm. lateral to the junction of the 4th left costal cartilage with the sternum downward to the cartilage of the 7th rib. The incision was carried through the skin, subcutaneous fat and the pectoralis major muscle. The muscle was freed from its attachment to the sternum outward. The 4th, 5th and 6th costal cartilages were removed. The internal mammary artery was visualized and ligated at each end of the incision. The triangularis sterni muscle was incised and the pericardium exposed. An incision 4.5 cm. in length was made in the pericardium and pus allowed to escape. The pericardial cavity was partly explored with the finger. A soft rubber catheter attached to a syringe was introduced into the dependent parts of the cavity and the pus aspirated from these pockets. Two soft rubber tubes were sutured into the lower end of the pericardial incision, care being taken not to allow the ends to pass into the cavity. The pericardium was not closed. The skin and soft tissues were loosely sutured around the drainage tubes with silk worm gut."

The findings at operation were reported as follows:

"The pericardium was 5 mm. thick and rather friable. The pericardial cavity contained several ounces of rather thick pus. The inner surface of the pericardium was shaggy due to the attachment of fibrin shreds."

The immediate postoperative course was uneventful and the patient improved as regards symptoms referable to cardiac distress. A septic temperature curve continued, although the daily peak was not so great. Four days following operation, dyspnea was again noted in spite of apparently adequate drainage. Fluoroscopic examination of the chest was repeated and revealed the heart shadow to have decreased somewhat since the previous study; feeble pulsations could be seen; there was no shadow suggestive of a mediastinal abscess; increased density was noted at the extreme left base.

The dullness at the left base gradually changed to flatness with an absence of breath sounds, and 8 days after operation thick green pus was aspirated from the 7th interspace at the left scapula line. A smear of this material revealed gram-positive lancet-shaped diplococci. On the following day a thoracotomy was done to permit open drainage of the empyema cavity.

The course from this point on was steadily downhill. The most prominent symptoms were those arising from an infectious process, although copious drainage from both incisions in the chest wall continued. Repeated clinical and fluoroscopic examinations of the chest failed to reveal evidence of a mediastinal or subphrenic abscess.

During the last few days of life the patient's cardiac reserve became depleted, and in spite of

the use of a diuretic (salyrgan), digitalis and of a limitation of the fluid intake the picture of congestive heart failure was present at the time of exitus. The patient expired 19 days after the pericardiotomy was performed.

The administration of sulfanilamide was instituted shortly after the patient was admitted to the hospital and small blood transfusions were given at frequent intervals. No apparent benefit was derived from either of these therapeutic measures.

Autopsy one hour after death confirmed the clinical and operative findings. The pericardial and empyema cavities did not contain fluid. There was an abscess containing thick green pus, similar to that previously encountered, in the upper anterior mediastinum, and there was a fresh infarct in the lower lobe of the right lung.

SUMMARY

Acute purulent pericarditis is encountered with fair frequency as a complication in the course of intrathoracic infections, puncture wounds of the precordial area of the thorax, and certain extrathoracic infections. That this complication is all too often overlooked is due, in a large measure, to a lack of persistence on examining the precordial area in cases of pneumonia, osteomyelitis and septicemia. Recovery rarely, if ever, occurs without promptly executed open drainage of the pericardial cavity.

A case is reported in which acute purulent pericarditis occurred as a complication of pneumonia. Death ensued on the 19th day following pericardiotomy. Autopsy confirmed the clinical and operative findings; and, in addition, revealed an abscess of the anterior mediastinum and a fresh infarct in the lower lobe of the right lung.

DISCUSSION

H. R. Carter, Jr. (Birmingham)—In opening the discussion of Dr. Finney's paper we wish to thank him for the subject he has selected and his manner of presentation.

The clinical picture he has brought before us and the well selected diagnostic signs are those which can be practically applied by all physicians.

His calling our attention to the more frequent occurrence of this pathologic condition in the younger group is valuable for it keeps our mind active as to the possibility of its appearance more often among them.

His reminding us of the relation of purulent pericarditis to pneumonia with or without empyema, as well as in septicemia when the foci of infection is distant, is something to be recalled when studying a case.

The clinical data he has included in his paper cover the essential findings on which a diagnosis is justified and the fact that he stresses that the primary infection may obscure the picture of the development of the pericardial infection is well worth remembering.

His paper shows that, at present, there is no choice in treatment of this condition and that operation is a necessity and not one of the methods of election.

Relative to prognosis, one important fact must be remembered: the thinness of the visceral layer of the pericardium and the possibility of extensive myocardial infection by extension, as well as, through the blood stream.

He has summarized the differential diagnosis in a concise but adequate presentation.

The statement made by the essayist, that the opinion of a competent radiologist in differentiation of the cardiac silhouette, is to be commended, for, although in large effusions there is a typical bottle shape to the cardiac shadow, delay is fatal and operative interference dangerous; therefore we should leave no stone unturned to complete our diagnosis.

The attention of the medical profession has been focused upon the application of electrocardiography as one of the diagnostic methods used in the differentiation of this condition. The statement of Dr. Paul D. White (Heart Disease, Macmillan Company) is clear and concise: "that electrocardiography is of distinct diagnostic value, 'low voltage' of all complexes being frequently found with extensive acute pericarditis with or without effusion. The more marked the pericarditis the more abnormal the electrocardiogram, especially if there is a large effusion. The S-T interval and T wave changes resemble to a certain extent those found in coronary disease. The T waves are usually negative in the three classical leads and the Q waves are not exaggerated in contrast to the findings in coronary occlusion." The T waves in the pectoral lead, as recommended by the American Heart Association, would be negative in L 1VF. "These changes have been interpreted as due to compression of the coronary arteries or myocardial pathology."

The technique for paracentesis and operative approach is still a matter of discussion; but the methods mentioned by Dr. Finney are among those approved by recognized authorities.

In closing, we wish to thank Dr. Finney for his interesting and practical paper.

Education—We have had an unusual opportunity in the past few years to observe the results of the skilful use of educational facilities in focussing attention of everyone on syphilis. The public now readily accepts information about syphilis with alacrity and the utmost equanimity. We can control the attitude of the public through judicious handling of publicity, but we must be alert and avoid the "flash in the pan" type of interest in the syphilis problem, substituting instead prolonged and keen interest. The responsibility is ours as professional health workers and medical men to see that accurate factual and yet readable material free from sex emotionalism and prejudice is furnished willingly to the public which looks to us for guidance. There is probably no better method of accurate information to the patient than through the private physician whose influence is incalculable.—*Heller, Texas State J. Med., Aug. '39.*

THE JOURNAL

of the

Medical Association of the State of Alabama

Editor-in-Chief

FRED W. WILKERSON Montgomery

Associate Editors

M. Y. DABNEY Birmingham

W. D. PARTLOW Tuscaloosa

J. N. BAKER Montgomery

DOUGLAS L. CANNON Montgomery

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

Office of Publication

519 Dexter Avenue Montgomery, Ala.

Subscription Price \$3.00 Per Year

September 1939

PELLAGRA

"In 1735 Gaspar Casal, a Spanish physician, first described pellagra and shrewdly pointed out that this disease is related to an inadequate diet. That diet was the controlling factor in the etiology of the disease was not suggested again until the work of Goldberg, Waring and Willets in 1915. During the next two decades, the full significance of diet in the development of pellagra gradually became evident because of the frequent association of the disease with faulty nutrition. Later, the administration of a high caloric diet, rich in protein and vitamins, supplemented with large amounts of antipellagic materials such as yeast, wheat germ or liver extract, became the accepted form of therapy. Although beneficial in most cases, this treatment is often impractical. It frequently necessitates hospitalization of the severely ill patients for several weeks, during which time almost constant supervision by a physician, nurse or dietitian is required. Furthermore, many of the patients who improve following this therapy are unable to buy, after discharge from the hospital, the relatively expensive foods which will protect them against recurrences of the disease. In addition, failure to recognize pellagra in its subclinical or mild form continued to be an obstacle to effective and lasting treatment, as advanced pellagra often developed before a diagnosis was made and therapy instituted. It is not surprising,

therefore, that efforts have been directed toward obtaining a more practical form of treatment, toward developing methods by which an earlier diagnosis can be made, and toward identifying and isolating the antipellagic factors."

The above is the opening paragraph from a recently published article by Spies, Bean and Ashe¹ and it is just about as comprehensive a history of pellagra and the practical difficulties of its treatment as could be compressed into a single paragraph.

Most physicians quickly recognize a classic case of pellagra, but the authors are certainly correct in stating that, all too often, the early or subclinical cases are dismissed with the easy diagnosis of neurasthenia. And they further tell us that "nicotinic acid or one of its closely related compounds, when administered in adequate amounts, has a prompt and beneficial effect on certain symptoms of clinical and subclinical pellagra. In cases of acute or chronic pellagra in relapse it will (a) cause fading of the fiery red lesions of the mucous membranes and diminish the Vincent's infection associated with it; (b) in most cases, restore to normal disturbed gastro-intestinal function; (c) restore to normal the mental function deranged moderately or severely in acute pellagra; and (d) cause fading of the dermal erythema but not cure chronic changes in the skin. In cases of subclinical pellagra, the vague, ill-defined symptoms disappear and in persons subject to recurrences of the disease the development of clinical pellagra is prevented. In both clinical and subclinical pellagra, the sense of well-being, one of the attributes of health, is restored. . ."

We also read that "nicotinic acid has no apparent effect upon the peripheral neuritis which is so frequently associated with pellagra. Pellagrins restricted to a pellagra-producing diet and nicotinic acid frequently develop peripheral neuritis, whereas pellagrins with peripheral neuritis, who are maintained on a similar diet supplemented with vitamin B, but not with nicotinic acid, show improvement in their peripheral neuritis but not in their mucous membrane lesions, alimentary symptoms, erythematous dermal lesions or mental symptoms. How-

1. Spies, Tom D., Bean, Wm. B., and Ashe, Wm. F.: Recent Advances in the Treatment of Pellagra and Associated Deficiencies, *Ann. Int. Med.*, 12: 1830, May '39.

ever, neither nicotinic acid nor vitamin B will prevent pellagrins from developing evidence of riboflavin deficiency. In view of this it would seem that pellagrins tend to have not only a deficiency of nicotinic acid or substances that act similarly but also a deficiency of at least two other water soluble vitamins, vitamin B (thiamin hydrochloride) and riboflavin."

And in conclusion the investigators warn us that "nicotinic acid, thiamin and riboflavin are invaluable in treating the pellagrin who has a deficiency of thiamin and flavin. Detailed studies of the food consumed by pellagrins reveal inadequacies of most of the essential nutrients. It is imperative, therefore, to stress this fact that these chemical substances, although invaluable as therapeutic agents, cannot be expected to replace a liberal and well-balanced diet."

There is still much uncertainty as to the exact etiology of pellagra and the stubborn fact remains that the incidence and severity of the disease have always varied, frequently without reference to hard times or years of relative plenty. At present the severe cases are rare and just now it is seldom that one encounters the classic "dermatitis, diarrhea, delirium, death" which, in some past years, have been so distressingly prevalent. But it is becoming increasingly evident that

many early or subclinical cases are overlooked, frequently to their very great detriment. But fortunately our knowledge of pellagra is rapidly increasing and valuable additions are being made to our therapeutic armamentarium. The investigations of Spies and his co-workers are outstanding in this field and it is to be hoped that they will be closely followed by all practitioners.

PREVENTION OF CANCER

In this issue of the Journal under the Association Forum there is a detailed report of the Survey for Cancer Treatment Facilities made during the past year by the Association's Committee on Prevention of Cancer. Since this survey was completed, several deep therapy machines have been purchased. While the amount of radium and deep x-ray machines available is not adequate for all the cancer in Alabama, there is sufficient to care for many more patients than are being seen. The present need seems to lie in the need of hospital and travel facilities for indigent cases. The American Society for Control of Cancer, realizing this need as an important adjunct to its educational program, has fostered in Alabama the organization of a Woman's Field Army, and it bespeaks the moral cooperation of all of our physicians.

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

REPORT OF SURVEY OF CANCER FACILITIES IN ALABAMA

The Committee on Prevention of Cancer conducted a survey on cancer facilities in Alabama. With the questionnaire, was sent a return postal card.

The following letter was sent to the physicians in all towns having hospitals and in towns and cities over 5,000 population:

It is desirable to know the facilities in Alabama for the diagnosis and treatment of malignant tumors. So many inquiries are coming in as the result of educational campaigns against cancer that the organization of cancer centers is becoming necessary.

In order that appropriate information may be in the hands of the Committee, won't you answer carefully, on the enclosed postal card, the follow-

ing questions and return the card as promptly as possible?

1. Do you treat cancer cases?
2. (a) Have you x-ray equipment?
(b) If so, what voltage?
3. (a) Have you a supply of radium?
(b) If so, how many milligrams?
4. Are you interested in receiving literature on cancer control?
5. Would you be interested in cooperating with a cancer clinic in your locality?
6. How many cases of cancer, approximately, do you see yearly?

Faithfully yours,

Committee on Prevention of Cancer.

J. P. Chapman, M. D., Chairman.

H. M. Simpson, M. D.

K. F. Kesmodel, M. D.

The Reply Card:

Note: Circle the correct answer, as far as possible?

1. Yes No
 2. (a) Yes No
 - (b)
 3. (a) Yes No
 - (b)
 4. Yes No
 5. Yes No
 6.
- Signed Address

Replies were received from 385 physicians or 47.4%. These were tabulated with the following results:

Number of questionnaires sent to doctors in towns of 5,000 population or over and in all towns having hospitals	812
Number returned	385
Cancer deaths—1936	1,729
Cancer deaths—1937	1,685
Estimated number of cases seen in 1937 as reported on survey cards	5,172-6,360
Number of doctors estimating number of cases	194
Number of doctors giving accurate number of cases	79
Number cases reported	2,330
Doctors reporting no cases seen	31
Failed to reply	38
Replies "not many, a few, rarely, occasionally"	23
"figures not available or impossible"	5
"not in private practice or practice limited"	7
"don't know"	6
"seen only for medical diagnosis"	2
Replies estimating number of cases seen 1937	194
17 of the doctors who reported cancer cases lived in:	
Cities 15,000, and each one reported over	75 cases
Cities 10,000-15,000, and one reported	50-75 cases
Cities 5,000-10,000 and one reported	40-50 cases
Doctors reporting 10-50 cases each	62
Doctors reporting 10 or less cases	115
Doctors reporting accurate number of cases	79
4 in towns with population of 5,000	14
3 in towns with population of 15,000-40,000	16
2 in towns with population of 40,000-70,000	7
1 in town with population of 70,000	27
Doctors reporting 75 or more cases had:	
X-ray and radium	10
Radium alone	4
Interested in literature	74
Not interested in literature	3
Failed to reply	2

Do you treat cancer?

Yes	170
No	209
Failed to reply	6
Those answering yes treated in the following ways:	
Surgery alone	25
Referred to radiologist	8
Radium and x-ray in hospital	26
Have only radium	10
Have x-ray—over 200 K. V. R.	2
Have x-ray over 200 K. V. and radium	13
Have radium (with x-ray diagnostic less than 200 K. V.)	19
Refer all patients for x-ray and radium	14
Failed to mention method of treatment or where	69

Doctors reporting radium and x-ray

Had radium or some type of x-ray	104
Interested in clinic	92
Not interested in clinic	7
Failed to reply	4
Interested in literature	95
Were not interested in literature	6
Failed to reply	3

Do you own radium and how much?

Amount of radium owned by physicians as reported	2,607 mg.
This amount proved to be too high as there was considerable duplication due to radium being owned by a group and each reported the total amount. A recheck placed the amount owned by doctors at	1,083 mg.
A number of physicians rent radium for individual cases as they arise but do not keep the radium on hand.	

X-ray

Reported x-ray 200 K. V. or over	13
One had 110-200 K. V., others 200 K. V. or over.	

Are you interested in receiving literature?

1. Yes	320
2. No	43
3. Failed to reply	22
1. Yes Replies:	
Treat cancer	159
Do not treat cancer	148
Failed to reply	3
Cooperate with clinic	
Yes	146
No	14
No reply	8
2. Did not want literature	43
Treat cancer	6
Do not treat cancer	37
3. Failed to reply	22
Specialists of other branches of medicine	7
Treat cancer	4
Do not treat cancer	11
Cooperate with clinic:	
Yes	6
No	1
Failed to reply	15

Interested in cooperating with clinic

1. Replies yes	308
With reservations	5
Answered yes:	
Treat cancer	154
Do not treat cancer	151
Failed to reply	3
2. Replies No	46
Treat Cancer	9
Do not treat cancer	37
3. Failed to reply	
Treat cancer	3
Do not treat cancer	15
Failed to reply	8

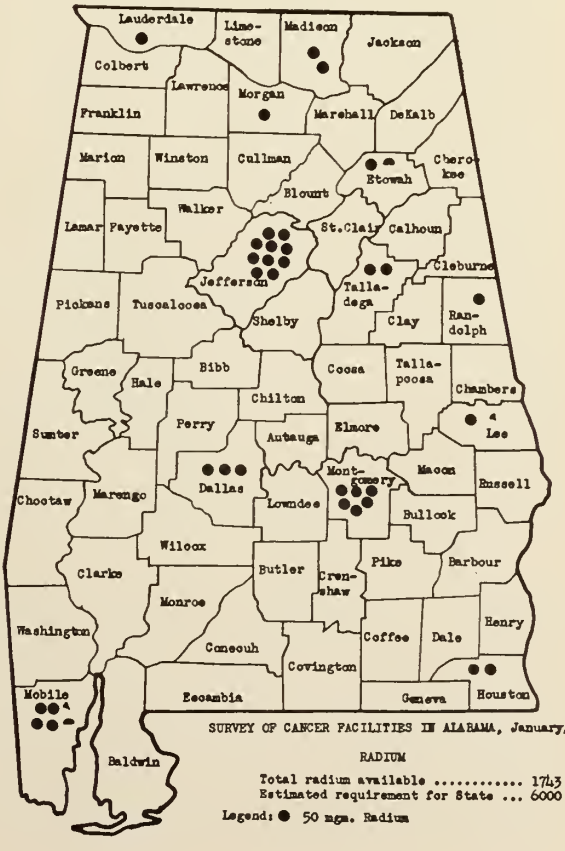
The following questionnaire was sent to the hospitals:

HOSPITAL SURVEY OF CANCER FACILITIES IN ALABAMA	
1. Name of hospital	
2. Address of hospital	
3. Superintendent's name	
4. Total number of beds (excluding bassinets)	
5. Number of beds designated for cancer patients	
6. Maximum voltage of x-ray machines in kilovolts owned by the hospital	
7. Number of milligrams of radium owned by the hospital	
8. Does the hospital rent radium: Yes No	
9. From where obtained	
10. Have you a laboratory properly equipped for tissue examination	
For making frozen sections for quick diagnosis during operation	
11. Is the pathologist a physician	
12. Is the pathologist on full or part-time service	
13. If there is no laboratory, where are tissues sent for examination	
14. Have you an out-patient department	
15. Number of new cancer patients seen in out-patient department in 1937	
Signed by	
Official position	
Date	

Fifty-two hospitals or 59% were returned. Twenty-nine were visited and the information obtained by personal interview.

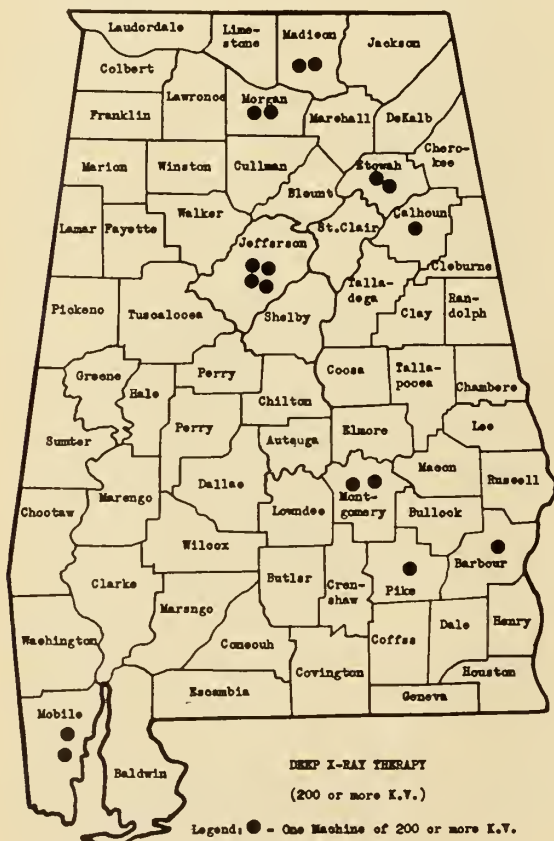
Hospitals:	
Sent survey	88
Reporting	52
Visited	29
Not seen	4
Closed	3
Number of Beds:	
2 mental hospitals	5,469
75 hospitals (general)	4,325
3 government hospitals	1,820
Tuberculosis	345

Beds earmarked for cancer, others available if vacant	12
Hospitals having:	
1. Out-patient department	34
Number cancer patients seen	921
2. X-Ray Machines	
Diagnostic	57
Deep-x-ray 200 K. V.	7
No x-ray	17
Not reported	7
3. Radium Owned:	
50 mg.	4
100 mg.	4
4. Radium Rented From:	
Number of commercial sources	6
Doctors	8
5. Laboratories Equipped:	
For tissue examination	22
Planning laboratory	3
6. Pathologist	
Doctors	22
Full-time	10
Part-time	12
Technician	4
7. Sections Referred	
To out-of-state laboratories (11 places)	22
To in-state laboratories (6 places)	31
No report	35



Figures one and two show the distribution of the radium and deep therapy x-ray machines in the State. It will be readily seen that treatment facilities are fairly well distributed.

On a basis of population, Alabama should have approximately 6,000 mg. of radium available for adequate treatment of cancer patients. According to the survey, Alabama has less than one-third of this amount. Part of the necessary radium is now available under the Bone Act. Radium may be loaned to hospitals by the United States Public Health Service. Application for such loans should be made through the State Health Department or directly to the United States Public Health Service.



The American Society for the Control of Cancer estimates that for every cancer death there will be during the following year: (a) one person with early cancer who may be cured when early cancer is adequately treated; (b) one person with late cancer who can be helped but not cured; and (c) one who will die regardless of treatment. According to this standard, Alabama will have in 1939 approximately 1,700 cases of early cancer

who should have adequate treatment if they are to be cured and 1,700 who need treatment for relief of symptoms and prolongation of life.

Georgia estimated, on a basis of medical economic survey made in 16 rural counties in 1937 that 50% of the persons suffering from cancer were unable to supply themselves with adequate treatment. Is it not reasonable to expect that, should a similar survey be made in Alabama, that a like number would be unable to obtain adequate treatment?

Since we know that cancer is curable if diagnosed and adequately treated during its early stages and is 100% fatal when untreated, it is important from a humane and economic standpoint to make some provision to give aid to the unfortunate citizens of the State who are afflicted with this disease. If aid is to be given, necessary steps need to be taken to provide legislation which will appropriate funds for the establishment of tumor clinics wherein diagnosis and treatment may be given to those unable to obtain it for themselves. Care of the patient during the time of diagnosis and treatment should be provided for these needy persons. A state service for microscopic diagnosis, in indigent cases, of neoplastic tissues should also be established.

Committee on Prevention of Cancer
J. P. Chapman, M. D., Chairman
H. M. Simpson, M. D.
K. F. Kesmodel, M. D.

TABLE 1
RADIUM FACILITIES IN ALABAMA

Owned by:	
Doctors	1,083 mg.
Hospitals	510 mg.
Counties	150 mg.
Total	1,743 mg.

TABLE 2
X-RAY FOR TREATMENT FACILITIES IN ALABAMA

Deep Therapy (200 K. V.)	
Doctors	12
Hospitals	5

TABLE 3
RADIUM NEEDED AND AVAILABLE

Estimated amount of radium necessary for adequate treatment	6,000 mg.
Amount available	1,743 mg.

TABLE 4
HOSPITAL LABORATORIES

Total number hospitals	87
Equipped for tissue examination	22
Full-time pathologists	10
Part-time pathologists	12

TABLE 5
HOSPITAL BEDS IN ALABAMA

General Hospitals	4,325
Mental Hospitals	5,469
Government Hospitals	1,820
Tuberculosis Hospitals	354
Total beds	11,968
Beds earmarked for cancer	12
Others available if vacant.	

TABLE 6
CANCER REPORTABLE DISEASE IN ALABAMA

- Board of Censors, December 1938, voted to make cancer reportable.
- Physicians to report cases of cancer on contagious disease cards.
- Important that location of cancer be stated.

ANALYSIS OF ALABAMA'S PROPOSED
PRENUPTIAL LEGISLATION

By
J. N. Baker, M. D.
State Health Officer

A short time ago there was introduced in the House of Representatives of the State Legislature a bill having for its purpose the curbing of the spread of syphilis and the other venereal diseases in the State.

This measure was in the nature of an extension of the provisions of the state law already in effect regarding marriage. It differed from that earlier legislation mainly in that it required women, as well as men, to obtain doctors' certificates attesting to their freedom from these diseases in a communicable stage before they could be married and specifically stated that evidence of freedom from syphilis should be substantiated by laboratory reports, instead of merely by physicians' statements that, in their opinion, such disease in communicable form was absent. The impression has gone abroad that such physician's certificate called for a physical examination of the prospective bride which by its very nature, would prove embarrassing. This is not true. The type of examination which would be required should prove no more embarrassing than that to which women and girls readily submit when applying for life insurance.

The new measure, the product of much careful deliberation on the part of the State Health Officer and his staff, and introduced after study of similar measures now in effect and under consideration in other states, was brought to a vote in the House on August 10th, 1939 and defeated by the narrow margin of only six votes—44 to 38.

Because of the great amount of interest which has been manifested in this measure by prominent women in various parts of the State and by physicians and many others who realize how great is the need for such legislation, and because of the State Health Officer's sincere conviction that such legislation would strike a telling blow at one of Alabama's most serious public health problems, it was decided to introduce a similar measure in the Senate in the hope that it might yet receive favourable consideration. The new measure, which has already been introduced and is now awaiting legislative action, is similar to the earlier measure in all essential respects. Because of the fact that the practising physician will have a vital role to play in the actual application of any legislation of this nature, it is felt that the following analysis and digest of the proposed legislation will prove timely and helpful to the profession. A copy of the amended bill as presented in the Senate is also included.

Section one of the measure provides that, except for certain persons specifically exempted, every applicant for a marriage license must file with the judge of probate a certificate from a legally licensed physician stating that, in the opinion of the examining physician, the prospective bride or bridegroom either is not infected with syphilis or any other venereal disease, or, if infected with syphilis, has it in a non-communicable stage. This section also stipulates that "such statement on the part of the physician shall include an approved laboratory test for syphilis and, when indicated, a microscopic test for gonorrhea."

Section two of the measure provides that the physician's certificate which has just been mentioned must be accompanied by a statement from an authorized representative of the laboratory making the blood test, this statement declaring only that such a test has been made. It is to be emphasized that this statement does not indicate to the judge of probate or to anyone else whether the laboratory test revealed the presence of

syphilis or any other venereal disease in communicable or non-communicable form. This information is furnished to the examining physician on a separate form and is treated by him as strictly confidential.

Section three contains sample certificates which must be filled out by the just-mentioned authorized laboratory representative and the examining physician. These contain blanks in which the required information must be given before the judge of probate *may* issue a marriage license.

Section four provides that "all laboratory tests required in this act shall be approved by the State Board of Health and shall be performed either in the laboratories of the State Board of Health or in a laboratory approved by the State Board of Health." This section also stipulates that such tests must be made within 60 days prior to the issuance of the marriage license for which application is made. The length of time required for the physician to receive a report on the blood test should not exceed 3 or 4 days. The "laboratories of the State Board of Health" includes of course the eight branch laboratories located at strategic points in the State; viz., Birmingham, Mobile, Tuscaloosa, Anniston, Selma, Dothan, Huntsville and Decatur, as well as the central laboratory in Montgomery.

Section five provides that the probate judge issuing a marriage license must attach to the license a copy of the two certificates signed by the laboratory representative and the examining physician, one that of the prospective bride and the other that of the prospective bridegroom. This section forbids any minister or any other person authorized to perform marriage ceremonies to perform such a ceremony unless these two certificates are attached to the marriage license. It also stipulates that a duplicate of each certificate must be filed in the office of the probate court of the county in which the marriage license is issued.

It will be recalled that certain persons are exempted in section one from the provisions of the measure. Sections six, seven and eight deal with and define these exceptions. Section six specifies that whenever the judge of probate is satisfied that an emergency exists he is authorized and empowered, upon being requested to do so by both parties to an impending marriage, to waive the requirements of the act and to issue a license to mar-

ry, provided all other requirements of the marriage laws have been complied with. Section seven provides that if one or both of the contracting parties has been found to be infected with venereal disease and if, as a result, the medical and laboratory certificates have been refused, the judge of probate is nevertheless authorized and empowered to issue a license to marry, provided *joint* application is made by both the prospective bride and the prospective bridegroom and provided the judge of probate is satisfied that an emergency exists. Two conditions are defined in section eight as constituting an emergency: a state of pregnancy on the part of the woman, evidenced by a personal affidavit *supported by* medical testimony; and the impending death of either of the contracting parties. The measure also provides that other conditions may be defined from time to time by the State Board of Health as constituting emergencies under the terms of this act.

Supplementary measures, framed to promote the equitable enforcement of this measure, have also been introduced. These provide that no physician may charge more than five dollars for making the required examination and issuing a certificate and that the health officer of any county in the State shall make such an examination and issue such a certificate entirely without any cost to the person requesting it, provided a request to that effect is made of him by a licensed physician. They also provide penalties varying from fifty-dollar fines to one-hundred-dollar fines and six months at hard labor for those failing to comply with the provisions of the law.

Many leaders of women's organizations and others prominent in the affairs of the State have expressed to the State Health Officer and to other members of the State Health Department personnel their interest in this measure, which they properly regard as a great forward step, and have indicated an eagerness to do anything they can to aid in its passage. Mothers and housewives realize that they and their children are exposed to these diseases as long as they employ domestic servants who have them in an infectious stage, and they realize that this danger is particularly serious in Alabama, where it is estimated that about one colored person out of every four gives a positive blood test for syphilis. They naturally are heartily in

favor of any legislation which will prevent the marriage of those capable of spreading this and other venereal diseases and becoming the parents of babies doomed from birth to disease, premature death, blindness, insanity or some other condition which would make life a living curse and a constant menace to others. Mothers especially see in it a means of protection for their own carefully reared daughters against the curse of these diseases when contracted, innocently enough, from husbands whose freedom from them has been unwisely taken for granted. Another by-product of such legislation of no mean importance is the certain stoppage of hastily drummed-up marriages resulting from midnight joy rides spiked with a superfluity of gin.

And of course the physicians of the State who are constantly brought face to face with these diseases' body-wrecking and mind-maiming potentialities also favor it heartily, as do many others because they too are acquainted with the poverty, illness, insanity and social backwardness for which these diseases are responsible.

It, no doubt, will be surprising to many to learn that syphilis was included among the ten leading causes of death among babies less than one year of age in this State in 1937; that more than two per cent of all infants' deaths that year were due to this single cause; that 1.4 Alabama babies out of every 1,000 born alive during that year succumbed to syphilis; that 84 deaths were attributed to this single disease among babies less than one year old during that single twelve-month period; that it killed more than three times as many young Alabama babies in 1937 as measles, diphtheria and tuberculosis combined; that 91 deaths were attributed in that single year to congenital, or inherited, syphilis; and that syphilis deaths among those less than five

years of age numbered only five less than 100 during the year under consideration.

Such a picture as these figures present is one that properly arouses the anxiety and fears of thinking men and women everywhere. This bill's passage would not entirely eliminate syphilis and the other venereal diseases as a factor in the health of our people, unfortunately, but it would strike a decisive blow at this problem at one of its most vulnerable points. The bill follows:

A BILL
TO BE ENTITLED
AN ACT

To amend Section 1156 of the Code of 1923
Be It Enacted by the Legislature of Alabama:

Section 1. That Section 1156 of the Code of 1923 be and the same is hereby amended to read as follows:

Section 1156—(1) Except as herein provided, each applicant for a marriage license shall file with the judge of probate a certificate from a legally licensed physician setting forth that in his opinion the person is either not infected with syphilis or other venereal disease; or, if infected with syphilis, is not in a stage of that disease which is communicable. Such physician's certificate shall include the statement that an approved laboratory test for syphilis has been made, and, if indicated, other laboratory tests made. A legally licensed physician is one who is licensed to practice medicine in the state in which he resides or in which he maintains his office.

(2) The above mentioned certificate shall be accompanied by a statement from the person in charge of the laboratory making the required test, or tests, or from some other person authorized to make such report. Separate forms shall be used showing the result of the tests and shall be transmitted by the laboratory to the physician.

(3) The above mentioned certificate of the examining physician and the statement of the person authorized to make reports for the laboratory shall be on a form approved, provided and distributed by the State Board of Health of Alabama. This form is hereinafter referred to in this act as "The Certificate Form." Such form shall read as follows:

Certificate Form Required for Each Applicant for a Marriage License in Alabama

RECORD OF STANDARD LABORATORY TEST

(To be filed out and sent to physician with report of result of test)

This is to certify that a _____ test for syphilis and
Name of test
was
_____ were performed on _____
Name of other tests when indicated Date
on a specimen submitted in the name of _____
Full name and address of applicant
Signed _____
Name of laboratory Person authorized to report for laboratory

CERTIFICATE OF PHYSICIAN
(Not to be detached from the above)

This is to certify that I have examined the person named in the above laboratory record and, in my opinion, this person is not infected with syphilis or other venereal disease; or is not in a stage of that disease which is communicable. I also certify that this person has submitted to a standard laboratory test for syphilis, report of which I have received and examined.

Signature of physician

Date of examination

Address of physician

This is to certify that I am the applicant referred to in the above certificates.

Signature of Applicant

Please check (✓) information applicable—microscopic ☐; blood ☐

(4) All laboratory tests required in this act shall be approved by the State Board of Health and shall be performed either in the laboratories of the State Board of Health or in a laboratory approved by the State Board of Health; and, to be valid, such laboratory tests shall be made within sixty (60) days before the issuance of the marriage license to which it applies.

(5) Before the judge of probate issues any marriage license he shall attach thereto one copy of the above mentioned certificate form of each applicant. No minister or other person authorized to perform marriage ceremonies in Alabama shall perform such ceremony unless the certificate form of each contracting party is attached to the marriage license, and the same to remain attached thereto. A duplicate certificate form shall be filed in the office of the probate court of the county.

(6) If the judge of probate is satisfied that an emergency exists, he is authorized and empowered, on joint application by both parties to a marriage, to waive the requirements of the act and to issue a license to marry, if all other requirements of the marriage laws have been complied with.

(7) If the certificate form or forms have been refused because one or both of the applicants have been found to be infected with venereal disease and if the judge of probate is satisfied that an emergency exists, he is nevertheless authorized and empowered, on joint application by both parties to a marriage, to issue a license to marry, if all other requirements of the marriage laws have been complied with.

(8) Emergency shall be defined as:

(a) Any female applicant for a license to marry who makes an affidavit and supported by medical testimony to the effect that she is pregnant.

(b) Impending death in either of the contracting parties.

(c) Such other causes as may be defined from time to time by the State Board of Health of Alabama.

Section 2. That this act shall become effective January 1st, 1940.

Section 3. That all laws in conflict with this act are hereby repealed.

Committee Contributions

Prevention of Cancer

The report of the Survey of Cancer Facilities in Alabama is printed in detail in this issue of the Journal. The Committee wishes to express its appreciation for the cooperation given it by the physicians and hospitals in the collecting of this information.

The survey shows that there is a good distribution of the radium and deep therapy machines available for treatment, though the amount of radium is only about one-third the needed amount for adequate treatment on a basis of population.

It would seem that the lack of diagnostic laboratory facilities for tissue examination, especially for the indigent cases, is one of the more important problems to be taken under consideration in the near future. Examination of tissues for cancer is one of the most important factors in the diagnosis of early cancer, and it is in the group of early cancer where treatment offers hope to the patient.

There has been considerable interest shown in the development of tumor clinics for the diagnosis and treatment of cancer. The need of these clinics was discussed in the annual report of this Committee.

Public Relations

REPORT FROM WILCOX COUNTY MEDICAL
SOCIETY COOPERATING WITH FARM
SECURITY ADMINISTRATION

Fifteen physicians are cooperating in the Wilcox County medical care plan sponsored by the Farm Security Administration, in

which 748 families are participating, according to a partial report prepared by Dr. Paul Jones, of Camden, Vice-President of the Southwestern Division of The Medical Association of the State of Alabama.

This report, covering essentially the activities of the medical care plan during the first six months of its operation, shows that each of these 15 participating physicians had from one to 202 families on his list.

With payments not yet received from 25 families, the report points out that \$12,455 has been deposited in the fund to provide medical care as needed. This fund is supposed to be divided in such manner as to make three per cent available for administration, 10 per cent as an emergency fund, and 87 per cent for doctors and drugs.

"In a study of 377 families during the first three months of the plan, the demand for medical services was moderate. During the next three months the demand has increased each month until in June it was as large as January, February and March," the report declares. "I found that the white families demanded more and that, though they average only one-tenth of the entire number on the FSA lists, their bills were about one-fourth of the bills rendered."

Dr. Jones suggested changes in the contract to provide that colored families pay from \$18 to \$25 each and that white families pay from \$22 to \$30 each, and that the division of funds be on the basis of three per cent for administration, seven per cent for dental care, 10 per cent for the emergency fund, and 80 per cent for doctors and drugs. Several other changes were also recommended, including the designation of a family unit as father, mother and unmarried children, a proviso that, after selection of a doctor for the year, no change be permitted, except for cause and only after satisfying the medical trustee regarding the reason for a change, and a requirement that the amount any one family might use out of the emergency fund be limited to \$100 for any one year.

Maternal and Infant Welfare

HEALTHY WORKERS IN THE HOME

Recently the Parents Magazine carried an article on "Healthy Workers in the Home" by Fairfax Hall, M. D. Although this article was written for lay readers your Committee

would like to call to the attention of the profession the need for careful periodic examination of both the employer and employee.

"Since tuberculosis in the lungs will be revealed by an x-ray film when the stethoscope may fail, x-ray examination of the chest is the most valuable medical procedure for the quick and accurate diagnosis of this disease. It is essential that this should be a routine procedure in the medical examination of all who are engaged in occupations which involve contact with children. The necessity for an x-ray examination applies not only to governesses, nurses and servants who care for children, but also to school teachers."

Fortunately syphilis is seldom transmitted to children by domestic servants unless the disease is in the contagious stages. A maid under treatment, with the disease not contagious, may often be safer than one who may have acquired syphilis after the health examination blood test was made.

"Gonorrheal infection is a highly contagious disease and certainly most undesirable in a household employee. Medical examination for its detection is not always dependable unless the disease is in the acute stage. There is also the possibility that it may be acquired after an examination has been made. Nevertheless, a health examination of a child's nurse should include an effort to detect its presence."

The earliest solution of the problem is the enactment of laws requiring the examination of domestics. "The alternative to legislation is a campaign of education. The prejudice of domestics against physical examinations must be overcome by showing them not only the economic but the health advantages of a periodic check-up. Their objections can be combated by pointing out how much is to be gained by a medical examination in finding out whether anything is wrong in time to nip it in the bud, or to have the satisfaction of knowing all is well. Opposition engendered by the feeling that they are being discriminated against as a class can be completely eliminated only when there is an exchange of health certificates which show that the employers, too, have not the disease from which they ask their employees to be free.

"The campaign of education must be directed not only toward domestic workers but toward all adult members of the family. Parents should realize that they as well as uncles, aunts, and grandparents may unsuspectingly be carriers of infection. If physical examinations are neglected by them, infection of children may result. For parents to set an example by having medical examinations of thoroughness equal to that desired

for their servants is a forcible argument of use when making the request for a health card from their employees.

"It is equally important that physicians be willing to cooperate thoroughly in making of servants examinations of high standard. In order that health cards should be of real worth the doctor must include in the examination everything necessary to exclude syphilis in the infectious stage, active tuberculosis, and other contagious conditions, but at the same time cover essential features for detection of physical defects to make it of health value to the one examined. This service must be furnished at a low semi-private rate, or in case the servant is unemployed, without charge."

It is the opinion of those most experienced with this problem that further progress depends largely upon the education of the public on matters of health. The cooperation of county medical societies is indispensable. Programs of education of laymen may be sponsored by them, and plans for the examination of servants at a reasonable cost can be instituted. The total annual cost of the physical check-up (including Wassermann and x-ray) has been calculated as low as \$10.00. This seems to be a small price to pay for this type of health insurance.

Recently the American Academy of Pediatrics has undertaken a campaign for periodic examination of adults, parents, relatives at home, nursemaids, domestic servants, school teachers, and others.

To safeguard the health of your children the following suggestions are offered:

(1) Ask servants or other household employees for a "health reference" as you do for a character reference.

(2) Set an example by having a thorough examination yourself.

(3) Employ for the care of children only those who have had a lung x-ray showing freedom from tuberculosis.

(4) Ask your family physician and local medical society to encourage medical examination of domestic employees and issue health cards on evidence of good health.

(5) Enlist the help of employment agencies, as is already in practice in certain communities. Request them to assist in creating a group of "Health Certified Servants."

(6) Do not try to force compulsory examinations by legislation, since this is manifestly unfair and unpopular. Instead, try to stimulate good feeling and the cooperation of all by a campaign of education to establish public sentiment in favor of this health movement.

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF LABORATORIES

Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

JULY 1939

Examination for diphtheria bacilli and Vincent's	567
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	1,174
Typhoid cultures (blood, feces and urine)	1,654
Examinations for malaria	3,287
Examinations for intestinal parasites	3,511
Serologic tests for syphilis (blood and spinal fluid)	19,532
Darkfield examinations	36
Examinations for gonococci	1,642
Examinations for tubercle bacilli	1,722
Examinations for Negri bodies (microscopic)	69
Water examinations (bacteriologic)	1,012
Milk examinations	1,930
Pneumococcus typing	26
Miscellaneous	1,563
Total specimens	37,725

THICK FILM EXAMINATIONS FOR MALARIA

Authorities on malaria are agreed that microscopic examinations of blood for malaria should be entrusted only to experienced persons. Krauss¹ states that many persons now examining thick blood smears are incompetent and that only well-trained, keen-eyed, conscientious microscopists can give satisfaction. Krauss cautions that rings of subtertian are easily overlooked in thick films if the smear is bad, if it is improperly stained, or if monochromatic light is used. He also calls attention to the fact that false positives as well as false negatives are possible due to bad laboratory work in the examination of thick blood films for malaria.

In a recent article in this space the advantages of the thick blood film technique in the diagnosis of malaria were enumerated.

1. Krauss: The Role of the Physician and the Value of the Thick Film in the Control of Malaria, South. M. J. 24: 424, May 1931.

Since that article appeared there has been noted considerable interest in the use of the thick blood film for malaria. The laboratories are receiving more thick blood films for examination and proportionately fewer thin blood films. In addition, a number of requests from physicians have been received asking for complete directions for staining and examining thick blood films. These requests indicate consideration by these physicians of adoption of the thick blood film technique in their private laboratories. While the Bureau of Laboratories is glad to furnish detailed information concerning procedures used in the examination of any specimen, it is feared that the advantage of the thick blood film in the diagnosis of malaria will be of doubtful benefit, or an actual disadvantage, in the hands of a majority of the private physicians' laboratories of the State. This statement is made only after careful consideration of the general lack of suitable facilities in many physicians' private laboratories for carrying out elaborate preparatory and staining procedures, and after consideration of the general lack of satisfactory training and experience with the thick blood film of the average person employed by private physicians to do laboratory work.

The proper staining of a thick blood film for malaria is a fairly complicated procedure, being much more difficult than the staining of a thin blood film. The microscopic examination of a thick blood film requires an individual thoroughly experienced in this type of examination, as malaria parasites in thick blood films are not readily recognized by the novice. Red blood cells of the thick blood film are destroyed in the staining process and are not present for comparative and differentiative purposes as in the thin blood film. Bacteria, if present on the thick blood film, often take the stain in such a manner as to closely resemble the chromatin of malaria parasites. Artefacts are also confusing to the inexperienced.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

NICOTINIC ACID IN THE TREATMENT OF PELLAGRA

Since the discovery that nicotinic acid was efficacious in the treatment of canine black

tongue¹ and its subsequent use in treating pellagra, a great deal of experimental work has been carried out and numerous reports as to its advantages and disadvantages have appeared.

The following seem to be the consensus of opinion at the present time:

1. Adequate doses of nicotinic acid, however administered, cause dramatic healing of the mucosal lesions of pellagra. Glossitis, stomatitis and diarrhea disappear in from twenty-four to seventy-two hours. Mental symptoms clear as rapidly as under any other form of treatment.²

2. The peripheral neuritis in pellagra is due to a deficiency of vitamin B₁ and can be relieved by its administration but is not improved by nicotinic acid therapy.³

3. Nicotinic acid supplement to the diet relieves only a deficiency of nicotinic acid or closely related substances and its greatest value comes when added to a full well-balanced diet.^{3, 4}

4. The exact dosage of nicotinic acid necessary for treatment varies with the individual. Some patients respond to as little as 60 mgms. a day, while others require as much as 1500 mgms. a day. Dosage of 50-100 mgms. six times a day for three days is frequently recommended.

5. Patients must be kept on a maintenance dose after the period of active treatment. This maintenance dose again varies with the individual and with the diet, but a daily dose of 100 mgms. given in amounts of 25 mgms. four times a day will suffice for the majority.²

6. Large doses of nicotinic acid may cause toxic symptoms.⁴ Flushing, itching and burning sensations, most marked over the face, neck and ears, are common. There may be epigastric and abdominal cramps, increased peristalsis, as evidenced by x-ray stu-

1. Elvehjem, Madden, Strong and Weeley; Relation of Nicotinic Acid and Nicotinic Acid Amide to Canine Black Tongue, *J. Am. Chem. Soc.* 59: 1,767, 1937.

2. Sydenstricker, V. P.: Nicotinic Acid in the Prevention and Treatment of Pellagra, *J. M. A. Georgia*, 27: 321, August 1938.

3. Spies, T. D., Grant, Jean M., Stone, R. E., and McLester, J. B.: Recent Observations on the Treatment of Six Hundred Pellagrins with Special Emphasis on the Use of Nicotinic Acid in Prophylaxis, *South. M. J.* 31: 1,231, Dec. '38.

4. Ruffin, J. M., and Smith, D. T.: Treatment of Pellagra with Special Reference to the Use of Nicotinic Acid, *South. M. J.* 32: 40, Jan. '39.

dies, belching, nausea and rarely vomiting.⁵

7. Nicotinic acid has also been shown to be efficient in preventing relapses and its use is recommended on the basis of maintenance dosage.

GONORRHEA

For the past few years syphilis has been the only disease treated in the venereal disease clinics. Since gonorrhea is probably twice as prevalent as syphilis, it has been felt that the treatment of this disease should be carried on by all venereal disease clinics. Beginning July 1st it was suggested that all clinics treating syphilis should also treat gonorrhea. Para-aminobenzenesulfonamide (sulphanilamide) is the first line of defense in the treatment of gonorrhea and is supplied free to clinics *only*. This should be followed by irrigations and instillations if there is little or no response to the para-aminobenzenesulfonamide (sulphanilamide) therapy.

The suggested routine treatment for adults is:

20 grains of the drug are given three times a day and 30 grains just before retiring at night.

One-half teaspoonful of sodium bicarbonate is given with each treatment. Limit the fluid intake to about two quarts a day and treat for 8 to 10 days.

For children the same plan is followed except the dosage of the drug is reduced to 15 grains for each 20 pounds of body weight up to 100 pounds. One-third of the total dose is given before retiring at night and the remainder is divided into three equal portions so that it can be given 3 times a day. It is probably best to administer the drug after meals.

Mimeographed instructions for patients are supplied to all county health departments. Instead of calling the drug sulphanilamide it is called para-aminobenzenesulfonamide with the hope that patients will be swung away from the drug store purchase of this remedial agent.

Since patients being treated for gonorrhea will probably be seen only once a week, it is suggested that the mimeographed instructions on reactions be given each patient. These instructions read as follows:

To patients with gonorrhea under treatment with para-aminobenzenesulfonamide:

If you should happen to develop any of the following symptoms while taking the tablets given by your doctor *stop the tablets*.

1. High fever
2. Rash
3. Knocked out feeling
4. Lips and face becoming blue.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

QUALIFICATIONS FOR PUBLIC HEALTH NURSING

Dr. J. N. Baker, State Health Officer, is Chairman of the Committee on Qualifications and Training for Public Health Personnel for the Conference of State and Territorial Health Officers. The qualifications for public health nursing as approved by the State and Territorial Health Officers in 1936 were reviewed and in some instances revised in April of this year. These qualifications, with some minor modifications, are essentially the same as those presented in 1935 by the Educational Committee of the National Organization for Public Health Nursing. The qualifications as set up by the National Organization for Public Health Nursing were for a period of five years, with the expectation that they would be generally met by 1940. At the present time this organization is gathering and reviewing information looking toward revision of these qualifications. It, therefore, appears particularly appropriate that the progress in Alabama be reviewed and future policies mapped out. Part two of the report of the Committee on Qualifications for Nurses is presented herewith. It covers the situation in Alabama with the exception of one or two urban districts.

PART II

A. *General Education*: High school graduation or its equivalent as determined by the State Department of Education.

B. *Professional Preparation*

1. Graduation from an accredited school of nursing connected with a general hospital having a daily average of 100 patients or a minimum of fifty patients with one or more affiliations affording supplementary preparation.

2. Emphasis throughout the curriculum and in all services on mental aspects of nursing.

3. Instruction and experience in the public health aspects of acute communicable diseases, tuberculosis, syphilis, and gonorrhea, maternity and pediatric nursing.

4. A program of study in public health nursing which meets the requirements recommended by the National Organization for Public Health Nursing and extends throughout at least one academic year.

The reasons for standard qualifications are obvious and require no further justification because of the nature and scope of public health nursing.

A brief summary of the present situation

regarding public health nursing education in Alabama is presented. There are employed at the present time 167 county public health nurses. Of this number 101 have not had a course in public health nursing. Sixty-six have had graduate study in public health nursing at universities. However, only 11 have had as much as a year's study. Twenty-seven of the 167 have nursing education deficiencies and 16 have not completed high school.

Looking at the above picture it would appear that little progress has been made in this State in the advancement of public health nursing education. However, this is not altogether true. It must be borne in mind that county public health organization in Alabama was developed far in advance of most states. Many of the present nursing personnel were employed prior to the qualifications now recommended. To arrive at an understanding of the whole problem it is necessary to view the basic nursing education in this State. Everyone is familiar with the statement of our President that "the South is the number one economic problem of the Nation." Economics have a definite bearing on nursing education in Alabama. The State has not yet subsidized nursing education as it has teacher education so that it has been necessary for hospitals, which are definitely service organizations, to bear the entire burden of nursing education. There are twenty-seven schools of nursing in Alabama which are accredited. The graduates are eligible for Red Cross nursing service in only eleven of these schools. About five years ago much thought was given to the problem of the small school. It had become increasingly difficult to secure added experience by affiliation and in many instances the teaching staff was admittedly inadequate. A number of hospitals closed their schools at that time.

It has been the policy of the Department of Public Health to employ graduates of schools of nursing in this State. This has meant taking girls without public health training and in many cases with deficiencies in basic nursing education as demonstrated in the twenty-seven now showing nursing education deficiencies. This situation has placed a tremendous burden and handicap on the Division of Public Health Nursing as well as proven a disrupting and disorganizing influence in the counties throughout the State. It has been an herculean task to furnish re-

lief for nurses to make up nursing school deficiencies which have in some instances extended through an entire year. The county health nurses have been relieved from duty to take public health courses which have been supplied through scholarships granted with Social Security funds.

What can be done about the nursing problem in Alabama? It would seem obvious that we cannot continue to recommend for employment nurses who are deficient in basic nursing education. There is need for vocational guidance for young women seeking nursing education which will fit them for public health nursing. The various nursing organizations are conscious of this very real problem and are working toward its solution. The physicians of the State, particularly the county health officers, need to become more interested in this problem which is vital to the public health nursing program.

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E., Director

INVENTORY OF WATER SUPPLIES AND TREATMENT PLANTS IN ALA- BAMA, 1939

Following is an inventory of water supplies in Alabama, included in a 1939 survey of water supplies in the United States which was made by the Engineering News-Record, from data furnished by thirty-four state sanitary engineers:

Population:

Total state population (1930)	2,646,248
Served by publicly-owned water works systems (est. 1939)	466,756
Served by privately-owned water works systems (est. 1939)	600,750
Total population served by both pri- vately- and publicly-owned sys- tems	1,067,506

Number of Communities Served by Water Works:

Population served by treated water	961,260
Publicly-owned systems	137
Privately-owned systems	137
Both public and private systems	274

Number of Systems:

Publicly-owned systems	124
Privately-owned systems	113
Both public and private	237

**Source of Water Supply: (Number of supply systems)*

Driven and bored wells	129
Spring and shallow dug wells	58

*Ten supplies have dual sources. Supply from streams also include impounded lakes.

Infiltration galleries	0
Streams	60
Water Treatment: (Number of plants)	
Treatment capacity	150 m. g. d.
Slow sand filters	1
Rapid or mechanical gravity-type filter plants	58
Rapid or mechanical filter plants pressure-type	1
Plants using chlorine only	68
Plants using chlorine and ammonia	2
Plants using lime soda	0
Plants using zeolite	3
Number iron removal plants (5 pressure and 4 gravity)	9
Manganese removal (included in iron removal)	3
Ammonia	0
Plants using activated carbon	6

It is likely that the survey covering all forty-eight states will appear in a future issue of the Engineering News-Record.

A. N. B.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

1939

	June	July	Estimated Expectancy July
Typhoid	27	56	120
Typhus	40	70	44
Malaria	662	1039	738
Smallpox	1	0	2
Measles	361	138	113
Scarlet fever	41	54	40
Whooping cough	330	231	144
Diphtheria	11	41	46
Influenza	154	28	22
Mumps	48	76	24
Poliomyelitis	3	7	6
Encephalitis	1	3	2
Chickenpox	46	25	19
Tetanus	7	3	7
Tuberculosis	214	320	291
Pellagra	23	31	89
Meningitis	8	6	5
Pneumonia	127	79	58
Syphilis	1620	1389	215
Chancroid	4	2	9
Gonorrhea	264	310	208
Ophthalmia neonatorum	1	2	2
Trachoma	0	0	0
Tularemia	0	1	1
Undulant fever	4	10	4
Dengue	0	0	0
Amebic dysentery	0	2	0
Cancer	103	49	0
Rabies—Human cases	0	0	0
Positive animal heads	30	15	—

*As reported by physicians and including deaths not reported as cases.
The Estimated Expectancy represents the median incidence of the past nine years.
With the venereal diseases, clinic cases were not included prior to 1936.

Book Abstracts and Reviews

Tuberculosis Education. By Elma Rood, B. S., M. A. Director of Public Health Nursing Education, University of Kentucky. Paper. Price, \$1.25. Pp. 125. Madison College, Tenn.: Rural School Press, 1939.

Certain well founded, logical criteria are here proclaimed in easily readable, simple form, well outlined. Brevity and conciseness of description are additional attributes that recommend this book for both lay readers interested in tuberculosis and those professional health workers who include health officers, nurses, school teachers and educational administrators.

Many of the subjects here propounded, that are so aptly answered by this author, suggest strongly the background of actual experience on her part, a factor so frequently lacking in the "Copy Book Authors" who so often publish books, the result of an outlet of an ill-founded inner urge on the part of individuals inadequately tempered on a subject.

This publication further possesses many clear cut, uncomplicated, easily comprehensible graphs and charts that are really quite self explanatory at a single glance and would easily lend themselves by slight alterations for any state or community.

H. T.

Cancer Handbook of the Tumor Clinic, Stanford University School of Medicine. Edited by Eric Liljencrantz, M. D. Cloth. Pp. 114. Price, \$3.00. Stanford University, Cal.: Stanford University Press, 1939.

This handbook was designed for a graduate course covering those malignant tumors seen in an active cancer clinic. The rarer tumors have been omitted. Though brief, this book covers the diagnosis, treatment and prognosis of cancers throughout the body, a chapter being given to each group. There is a chapter on leukemia and lymphoblastomata, another on tumors of the nervous system. There is an excellent bibliography on each chapter and an index. The handbook has ample tables and illustrations for such a brief summary. In the chapter on the cancer problem, the genesis of cancer is discussed and the various factors involved evaluated by the latest researches.

In the diagnosis of cancer, the editor makes a pertinent statement which should be kept in the minds of all physicians, especially the family physician who sees the patient first. He says, "Attention to symptoms or signs, no matter how trivial, increases the opportunity for the doctor to establish the diagnosis of disease in its incipient stages. Many early cases of cancer are passed by with the advice to temporize." And again in the discussion of biopsies he states: "Positive diagnosis of cancer made on such specimens are conclusive but *negative diagnoses* made from small amounts of tissue are inconclusive and make it necessary to take another specimen."

There is a discussion of radium and x-ray therapy and a classification of tumors with the degree of radio-sensitivity, which will be of special interest to those interested in cancer treatment but who do not treat it themselves.

NEXT MEETING
OF THE ASSOCIATION
BIRMINGHAM
APRIL 16-18, 1940

The family physician will find this book of value for review of the latest conservative method in diagnosis and treatment—a book of ready reference.

E. F. D.

An Introduction to Sociology and Social Problems. By Deborah MacLung Jensen, R. N., B. Sc., Social Service Consultant to the Visiting Nurse Association, St. Louis, and Lecturer in Nursing Education, Washington University. Cloth. Price, \$2.75. Pp. 314. St. Louis: The C. V. Mosby Company, 1939.

Although Mrs. Jensen has aimed at a much larger public than that encompassed in the medical and nursing professions, her studies, the fruits of which form the meat of this volume, have unearthed much information of considerable value to those devoting their lives to the care of the sick and the preservation of health.

This, the fly-leaf makes plain, is intended to be only an introduction to sociology and social problems, but so painstakingly has the author gone into the matter that it might easily be regarded as a complete study of these twin subjects. Indeed it would be interesting, and perhaps somewhat futile, to speculate as to what she could have added to the work had she determined to go the whole way and make this the last word in those fields.

So complete has been her coverage that the book might be regarded as something of an authority on practically every phase of social service work, including the medical and nursing phases. There are, for instance, discussions in more or less detail of such themes as "Professional Nursing Considered as a Social Institution," "Organized Health Activities," "Urban Health Organization," "Rural Health Organization," "Public Health Nursing," "Physical Effects of Illness," "Social Effects of Illness," "Economic Effects of Illness," "Adjustment and Re-Education of the Physically Handicapped," etc.

Discussing one of the most baffling problems in the field of public and individual health, the writer declares:

"The economic effects of illness are the concern not only of the patient and his family but also of the community. The patient, particularly if he is a wage earner, may, at first, be concerned primarily with the duration of the illness, or how long he will need to be off the job. He will also be concerned with the outcome; that is, will he be able to resume his old work, or will he be physically incapacitated because of the illness? The welfare of the community, of course, depends on the welfare of individuals and their families. If the patient has a communicable disease which may menace the health of other members, certain precautions are taken to prevent the spread of the disease. The economic loss to industry because of disease and physical handicaps must be considered in studying the economic effects of disease in the community. The loss to the community because of premature death or handicapping illnesses can hardly be estimated in dollars and cents."

In a sense, the science of healing touches all aspects of human life, and a contribution to any

of these other aspects is, directly or indirectly, a contribution to medicine. For that reason, Mrs. Jensen, writing as a sociologist and social worker, has a message for devotees of the healing art.

J. M. G.

The Newer Knowledge of Nutrition. By E. V. McCollum, Ph. D., Sc. D., LL. D., Elsa Orent-Keiles, Sc. D., and Harry G. Day, Sc. D. Cloth. Pp. 701. Price, \$4.50. New York: The Macmillan Company, 1939.

The Newer Knowledge of Nutrition is in reality what its name suggests. It is a comparatively brief compilation of the known facts regarding the nutritive needs of the body, the general or chemical nature of certain factors, their nutritional significance, factors affecting their use in the body, and the relationship of certain combinations of elements to physical development, health, and longevity of life.

The book is divided into twenty-eight chapters, the first dealing with the beginnings of the science of nutrition, and its early history and development of concepts. The next is concerned with the nutrition requirements of the body, and the modern concept of dietary essentials. Then follow some twenty-two chapters setting forth the functions of different food elements in nutrition, their chemical natures, physiologic roles, requirements in the maintenance of health, and the effects produced by their deficiencies. The last four deal with the appetite, dietary habits of man in different parts of the world, and diet in relation to teeth, general health, and length of life.

The chapters are divided into important labeled sections and contain significant tables, structural formulae, and other helpful data; and at the end of each is a rather comprehensive list of references.

The book brings up to date the significant facts in nutrition; and while expressed in a rather technical style, is very readable for anyone with a fair nutrition background. It is especially valuable for students of nutrition, research workers in this field and for physicians.

C. R.

Population, Race and Eugenics. By Morris Siegel, M. D. Cloth. Pp. 206. Price, \$2.50. Published by the Author, 546 Barton Street East, Hamilton, Ontario, 1939.

Population, Race and Eugenics is a book which will appeal to anyone interested in present day eugenic problems. It can easily be read in a few hours and contains a vast amount of information on a variety of subjects. The book is divided into two parts, positive and restrictive eugenics. Positive eugenics concerns population and eugenics; restrictive eugenics, the care of persons afflicted with mental diseases.

Attention is called to the fact that those groups gifted by nature to create a suitable environment for offspring have, as a rule, small or no families; those not so gifted have large families. One-half of the more gifted and better educated women are said not to marry.

Marriage is referred to as a matter of personal convenience, rather than a social duty. Failure to marry in cities is much less likely to result in

lonesomeness than it is in rural districts. A desire to support a family within certain economic standards prevents or postpones many marriages.

The need for assisting those wishing to marry is recognized and a brief discussion of birth control clinics is given. School medical officers can assist in the eugenics program. It is recommended that annual mental tests be given those in the public schools and that pupils having an I. Q. for three consecutive years below a certain figure be referred to the Board of Health. It is also urged that recognition be made of pupils found to have a high I. Q.

The chapter on racial theories is of particular interest in view of present day claims of racial superiority. In particular, is mentioned the belief that practically all achievements of man are attributable to Nordics. It is further stated that the World War was, in part, a result of race madness on the part of Germany. The Nazi ideology is based upon the same belief. The Nordic superiority is referred to as a myth. There is a Nordic type, but no longer a Nordic race. Decline in civilizations of the past is said to have had its beginning with a severe defeat on the battlefield.

Marriage is referred to as an institution through which procreation is organized. The better stock, by adapting itself to its environment, survived, becoming the veritable master of life. Our entire social structure is founded upon the institution of marriage.

In the discussion of personal and eugenic risks of marriage, it is aptly pointed out that public health measures must have the support of an educated and aroused public in order to be successful. This includes the subject of marriage and health examinations.

Eugenically, the man or woman marries the family and, therefore, the commonly quoted phrase "that one marries the girl and not the family" is untrue. In so doing great natural attributes may be diluted or permanently lost. The suggestion is made that eugenics be made a compulsory subject for study in all high school curricula. The establishment of marriage consultation bureaus for giving advice to young people is urged.

Of special interest is the suggestion that the birth certificate be used as a family history blank and that it contain such additional items as age of parents at time of marriage, postgraduate study, musical and artistic attainments, hobbies, sports, religious affiliations, physical condition, etc.

Although the intelligence quotient (I. Q.) is recognized as not being a highly accurate measure of intelligence, it is stated that the indications are that a person having an I. Q. of less than 70 is not fit for home building. From one to two per cent of the world population is feeble minded.

The increase in the number of mentally diseased persons entering institutions is not believed to represent a corresponding increase in such cases, but rather a widespread realization of the advantages of such care. Contrary to the common belief, defectives do not usually have large families. This is due, in part, to the compara-

tively low marriage rate, high general and infant mortality and institutional care during the reproductive period. Illegitimacy, however, is high among defective women. Effects of syphilis, heredity, alcohol, x-rays, radium and lead poisoning are briefly discussed.

Whereas the manic depressive type of mental disease is more common among females than males, the opposite is true of dementia praecox. Both diseases may be inherited, although the mode of transmission is not understood. From thirty to fifty per cent of epileptic cases are said to be hereditary; about twenty-five per cent, deaf mutism.

Restrictive measures urged for the control of mental diseases include education, marriage laws, segregation and sterilization. Dr. Harry Sharp is quoted as the first person in the United States to use vasectomy for purposes of sterilization. He began to do so in 1899 at the Indiana State Reformatory for boys. The legislative history of sterilization is reviewed.

From a eugenic standpoint, castration is not recommended as a means of sterilization, but rather salpingectomy and vasectomy. Sterilization should be limited to eugenic purposes and not be used as a form of punishment. Sterilized defectives in the community must be supervised. To sterilize persons unfit for community life is needless. About twenty per cent of feeble-mindedness is hereditary; half of those so afflicted are unfit for community life.

Prenatal care is urged and the taking of blood tests for syphilis early in pregnancy. Good obstetric care is necessary for the child as well as for the mother.

L. V. P.

Practice of Allergy. By Warren T. Vaughan, M. D., Richmond, Va. Cloth. Pp. 1,082, with 338 illustrations. Price, \$11.50. St. Louis, Mo.: The C. V. Mosby Company, 1939.

The author published in 1930 a monograph entitled "Allergy and Applied Immunology." Intended both for the physician and the patient, it served its purposes well. Because of the great advances in the field of allergy and the wealth of new material, the author deemed it wise to write one volume for the physician and another for the patient. "Practice of Allergy" differs too much from the original book to be considered a new edition. For the patient the author is writing a companion volume entitled "Primer of Allergy."

To those who have looked on allergy as a simple subject, the reviewer wishes to emphasize the fact that to practice good allergy one must first be an internist, but he must in addition be familiar with botany, mycology, dermatology, otolaryngology, pediatrics and dietetics. In attempting to cover all these subjects in one volume, the author assumes a large task. Doctor Vaughan has successfully brought together in one volume a tremendous amount of knowledge and by his lucid style and excellent illustrations has made it fascinating reading.

In the chapters on diagnosis, the author stresses the necessity for careful history taking and general physical and laboratory examinations. The

methods of testing for the specific causative factor—skin tests, patch tests, nasal and ophthalmic tests, leucopenic indices and tests for physical allergy—are given detailed descriptions. Also elimination diets and food diaries in the relation to studying food factors causing trouble. The foods are described and classified according to their botanical relationship and the animal foods according to zoological classification.

There is an excellent description of the hay-fever plants, well illustrated with photographs of plants and their pollen granules and with maps showing their distribution.

The important inhalent allergens are described. There is a well written and beautifully illustrated chapter on moulds and yeasts and a very complete description of the work done on mould allergy. Chapters deal also with insect allergy, drug allergy and physical allergy.

Contact allergy is discussed. The various plant and animal products, drugs, chemicals and cosmetics causing contact eczema are described, the details of diagnosis and treatment given.

Drugs used in the treatment of allergy are presented. The last chapters deal with the various allergic syndromes—asthma, hay-fever, allergic rhinitis, migraine, dermatitis, urticaria, angioneurotic edema and gastro-intestinal allergy.

In a personal communication, the author said he enjoyed writing the book. The reviewer certainly enjoyed reading it. He recommends it as the outstanding volume on the subject of allergy.

C. K. W.

New and Non-Official Remedies, 1939. Containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1939. Cloth. Pp. 617. Chicago: American Medical Association.

Since the individual practitioner of medicine can not possibly evaluate with any degree of accuracy the innumerable new drug products that appear on the market each year, it seems quite obvious that the wise and cautious physician should desire some authoritative opinion as to the value of these products. Certainly the work of the American Medical Association's Council on Pharmacy and Chemistry—consisting of outstanding authorities from several of our best universities—can be accepted as far superior to our own opinions. The report of this committee is available in the N. N. F. From the list of drugs in this volume, one can find a satisfactory drug for every purpose. Nothing of proved value is omitted. Nothing of doubtful or no value is included. Physicians who are not doing research work would do well to limit their selection of drugs to those in the N. N. F. and the U. S. Pharmacopeia. The latter is revised only once in ten years. The N. N. F. help your information on drugs up-to-date.

C. K. W.

Do you Want to Become a Doctor? By Morris Fishbein, M. D., Editor, Journal of the American Medical Association. Cloth. Pp. 176. Price, \$1.50. New York: Frederick A. Stokes Company, 1939.

This book is written for the high school student who is considering the practice of medicine as a

career. Based on the factual data assembled by the Council on Medical Education and Hospitals of the American Medical Association, it is intended as a guide to the young man who wants to become a doctor. It tells of the necessity of selecting a grade A undergraduate school and of taking more than the minimum requirement of two year's study, discusses the choice of medical school, and the requirements for entry and cost of tuition. The yearly expense at medical school is itemized in detail. The grade A medical schools are listed, the duties of internes described, and state licensure discussed. The requirements for recognition as a specialist are referred to briefly. The selection of location and the task of beginning practice are mentioned much too briefly.

Physicians will find nothing new in this book but prospective doctors will find it a worthwhile guide to help them along in their careers. The reviewer is giving his copy to a first year medical student with the hope that it will direct his education along proper channels.

C. K. W.

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1938. With the comments that have appeared in the Journal of the American Medical Association. Cloth. Pp. 123. Chicago: The American Medical Association.

This volume is a reprint of reports of the Council adopted and authorized for publication during 1938. It includes also reports of the Council previously published in the Journal of the American Medical Association along with the editorial comments that accompanied. It contains a few reports of lesser importance not previously published. This volume is published in order to make available to physicians, chemists and pharmacologists the Council's official reports.

The reports of most interest deal with ergonovine, picrotoxin in barbiturate poisoning, sulfa-pyridine and allantoin.

Endocrinology in Modern Practice. By William Wolf, M. D., M. S., Ph. D., Endocrinologist to the French Hospital, Attending Endocrinologist, Misericordia Hospital, New York City; Consulting Endocrinologist, New York University Dental School. Second edition, completely revised. Cloth. Pp. 1,077, illustrated. Price, \$10.00. Philadelphia and London: W. B. Saunders Company, 1939.

The material in this book is presented in logical sequence. In the case of each gland of internal secretion, anatomical and histological descriptions are followed by discussion of the normal physiology and detailed description of the diseases resulting from disturbed function. Excellent diagrams and photographs help to clarify the descriptions. At the end of each chapter is an excellent summary of the important points. This material occupies half of the volume.

The second half of the book includes chapters on obesity, menstrual dysfunctions, the relation of endocrines to pregnancy and sterility and to the various medical and surgical specialties. Excellent chapters on history taking, physical examination, interpretation of laboratory findings and the technique of performing the various tests of value in studying endocrine diseases add to the value of the book. The various endocrine products on the market are listed and briefly described.

ed. Throughout the book, the author reflects his ability as a teacher. Facts are presented and summarized.

The new edition contains information on prothamine zinc insulin, the hypoglycemic states, endometrial suction biopsies, the relation between the autonomic nervous system and the endocrines, the effect of the vitamins on the ductless glands, newer knowledge of the function of the thymus glands, minimal metabolism and certain new diagnostic laboratory procedures.

The reviewer considers this book the best available one on the subject of the endocrines. In this field of medicine, a book is out of date in three years so the old edition can well be supplanted at this time.

C. K. W.

Varicose Veins. By Alton Ochsner, B. A., M. D., D. Sc. (Hon.), F. A. C. S., and William Henderson, Professor of Surgery and Director of the Department of Surgery, School of Medicine, Tulane University of Louisiana, New Orleans, La.; and Howard Mahorner, B. A., M. D., M. S. (Surgery), F. A. C. S., Assistant Professor of Surgery, School of Medicine, Tulane University of Louisiana, New Orleans, La. Cloth. Pp. 147, with 50 illustrations and two color plates. Price, \$3.00. St. Louis, Mo.: The C. V. Mosby Company, 1939.

In a monograph of less than 150 pages, the authors cover the subject of varicose veins of the legs beginning with a history of the treatment of varicosities and including description of the anatomy of the veins of the legs, the etiology and pathology of varicosities, the clinical symptoms and complications. The various tests for evaluating the circulation in the superficial and deep veins are described—the Mahorner-Ochsner tourniquet being given especial emphasis. The chapters on treatment outline indications and contraindications and describe the various forms of treatment and the indications for each type—the elastic bandage, unna's boot, injection of veins, ligation with injection and the special forms of treatment for varicose ulcers using sponges, boots and various plastic operations.

The modern treatment of varicose veins can be carried out with little equipment and anyone willing to read a little can master the subject in a short period. Since varicose veins are frequent causes of disability, all physicians should be interested in a book that tells how to manage this type of case.

C. K. W.

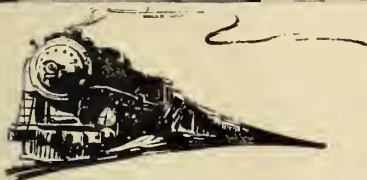
Truth About Medicines

PROPAGANDA FOR REFORM

The Place of Sulfanilamide in Chemotherapy.—The recent review of Marshall (Physiol. Rev. 19: 240, April, 1939) on the pharmacology of sulfanilamide correlates a vast amount of experimental work dealing extensively with the experimental results which form the basis for the intelligent use of sulfanilamide and related drugs in certain bacterial diseases. Marshall points out that the efficacy of sulfanilamide in experi-

mental mouse infections due to the meningococcus, gonococcus, Eberthella typhi and paratyphi B, Clostridium welchii, the Sonne strain of dysentery bacillus, and the staphylococcus seems to be well demonstrated. With regard to pneumococcic infection with types I, II and III in mice, the drug appears to possess some activity, although different investigators do not agree on the magnitude of the effect. Although the acute toxicity of sulfanilamide under certain conditions has been studied on many varieties of animals, comparatively little information is as yet available with regard to the effect of repeated doses and chronic toxicity. With regard to the mechanism of the action of sulfanilamide, comparatively little is known. Marshall believes that the balance of evidence indicates that sulfanilamide affects the invading organism as a result of bacteriostatic or bactericidal action which, in many cases, is not sufficient to effect sterilization without the cooperation of the defensive reaction of the host. The relative roles assumed by these two factors probably vary, depending on different conditions of infection and concentration of the drug. According to Marshall it is yet too early and the cases are too few to assess fully the value of sulfanilamide in most of the conditions investigated. The advent of sulfanilamide and related compounds has, nevertheless, altered in a favorable sense the prognosis of hemolytic streptococcus as well as other bacterial infections. (J. A. M. A., June 17, 1939, p. 2520).

Bromo-Seltzer—Under the dangerous drug section of the new Federal Food, Drug and Cosmetic Act, the Food and Drug Administration has initiated action against Bromo-Seltzer. Bromo-Seltzer, which is an acetanilid-bromide preparation, is alleged by the government to be misbranded "in that it is dangerous to health and because of the failure of the labeling to reveal facts material with respect to the consequences which may result from the use of the article and the failure to bear warnings against use in those pathological conditions, or by children where its use may be dangerous to health, or against unsafe dosage, or methods, or duration of administration, in such manner and form as are necessary for the protection of users." In its answer to the charges, the Emerson Drug Co. denies that Bromo-Seltzer is dangerous. (J. A. M. A., June 3, '39.)



*No fuss . . . no trouble when it's S.M.A.
Aboard the Californian, S.M.A. is pre-
pared and fed the same as it is at home,
easily and quickly, without interruption
or change in baby's feeding schedule.*

THIS TRAVELING MAN EATS



S.M.A. FEEDINGS ARE THE SAME EVERYWHERE

Whether S.M.A. is prepared in New York or California, or even enroute, the feedings are always uniform—like breast milk.

In any climate, S.M.A. remains fresh and sweet, because it is nitrogen packed to prevent oxidation or change in its chemical and physical composition.

INFANTS RELISH S.M.A. — DIGEST IT EASILY — THRIVE ON IT!

S.M.A. is a food for infants — derived from tuberculin tested cows' milk, the fat of which is replaced by animal and vegetable fats including biologically tested cod liver oil; with the addition of milk sugar and potassium chloride;

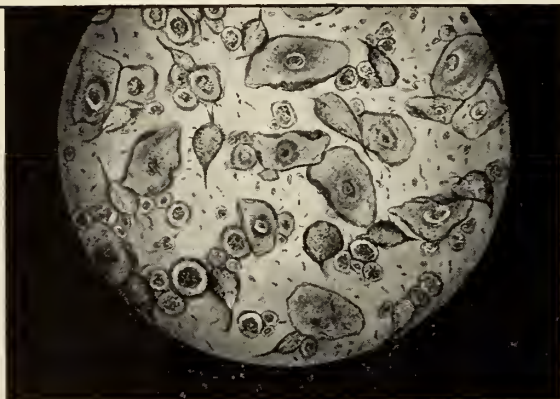


altogether forming an antirachitic food. When diluted according to directions, it is essentially similar to human milk in percentages of protein, fat, carbohydrate and ash, in chemical constants of the fat and in physical properties.

TRICHOMONADS IN THE VAGINAL SMEAR

SILVER PICRATE

Wyeth



IN THE OFFICE TREATMENT FOR TRICHOMONAS VAGINITIS

Two insufflations of Wyeth's Compound Silver Picrate Powder and the supplementary use of twelve Silver Picrate Vaginal Suppositories usually result in complete remission of symptoms of trichomonas vaginitis and the disappearance of trichomonads from the smear.

CONVENIENT • SIMPLE • EFFECTIVE

Complete information on request



JOHN WYETH & BROTHER, INC. • PHILADELPHIA, PA. : : WALKERVILLE, ONT.



BRAWNER'S SANITARIUM

SMYRNA, GEORGIA (Suburb of Atlanta)

FOR NERVOUS AND MENTAL DISORDERS,
DRUG AND ALCOHOL
ADDICTIONS

Approved diagnostic and therapeutic methods. Hydrotherapy, Electrotherapy, Massage, X-Ray and Laboratory. Special Department for General Invalids and Senile Cases at Monthly Rates.

JAMES N. BRAWNER, M. D.
Medical Superintendent

ALBERT F. BRAWNER, M. D.
Resident Superintendent

Miscellany

TREATMENT OF ANXIETY STATE REQUIRES CONSIDERATION OF VICTIM'S PROBLEMS

If the victims of anxiety states are to be treated rationally, not by the cultist, the physician must recognize the physical causes and the mental factors involved and interest himself in the problems of these individuals, William J. Kerr, M. D., Paul A. Gliebe, M. D., Mayo H. Soley, M. D., and Nathan W. Shock, Ph.D., San Francisco, declare in *The Journal of the American Medical Association* for Aug. 19.

They state: "Economic and social upheavals since the World War have undoubtedly increased the number of patients who have anxiety states. At least one third of the practice of most physicians consists of such patients. The average physician has little interest in the problems that this group presents and is likely to label them neurosis, neurasthenia, anxiety neurosis or anxiety hysteria (mental disorders)."

Since this labeling is unsatisfactory and does not help the patient in any way, the authors continue, "the patient shops around from doctor to doctor until, if he is fortunate,

he finds one who will pay enough attention to his symptoms to recognize the physiologic (physical) causes as well as the fundamental psychologic (mental) factors. Perhaps the increasing popularity of cults has depended largely on the fact that their practitioners at least do something for their followers even though the treatment is not rational.

"Any situation or group of circumstances, whether real or fanciful, threatening the emotional or social organization of the individual may lead to anxious reactions."

Overstimulation of the central nervous system results in a spilling over of impulses and thus causes the symptoms of organic disease; these may include rapid heart beat, raised blood pressure, spasm of the gastrointestinal tract, difficult respiration and many others.

In the approach to diagnosis and treatment, the patient should be considered as a person who is ill physically as well as emotionally. The advantage of recognition by the physician of the exact physiologic cause of the symptoms in any patient lies in the fact that the physiologic mechanism can be proved by reproduction of the symptoms.

Behind
MERCUROCHROME
 (dibrom-oxymercuri-fluorescein-sodium)
is a background of



Precise manufacturing methods insuring uniformity

Controlled laboratory investigation

Chemical and biological control of each lot produced

Extensive clinical application

Thirteen years' acceptance by the Council of Pharmacy and Chemistry of the American Medical Association



A booklet summarizing the important reports on Mercurochrome and describing its various uses will be sent to physicians on request.

Hynson, Westcott & Dunning, Inc.
 BALTIMORE, MARYLAND

Many school Doctors and Nurses recognize



Chewing Gum

as a
Mouth Health Aid

It is a boon to the school doctor and nurse to be able to recommend for children something they just naturally love to do! Chewing gum, as healthful as it is popular, is a cleansing agent for the teeth that children gladly employ. And the chewing provides stimulating exercise for their gums So, remember, doctors, that there is a reason, a time and place for Chewing Gum. Recommend it.

Four Factors Which Help You To Have Good Teeth Are: (1) Proper Nutrition, (2) Personal Care, (3) Seeing Your Dentist and (4) Plenty of Chewing Exercise.

T-223

NATIONAL ASSOCIATION OF CHEWING GUM MANUFACTURERS, ROSEBANK, STATEN ISLAND, NEW YORK

The Brown Printing Co.

of
Montgomery

is prepared to meet the printing needs of the Medical Profession of Alabama.

QUOTATIONS CHEER-
FULLY FURNISHED

Printing That Is Distinctive

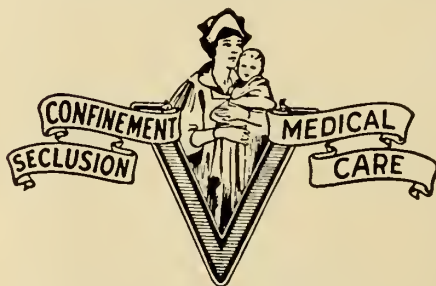
The VEIL MATERNITY

HOSPITAL MIDDLETOWN, DEL.

- For Care and Protection of the Better Class of Unmarried Young Women.

▪ STRICTLY PRIVATE ▪ ABSOLUTELY ETHICAL ▪ PATIENTS ACCEPTED AT ANY TIME DURING GESTATION ▪ OPEN TO REGULAR PRACTITIONERS ▪ EARLY ENTRANCE ADVISABLE.

Adoption of babies when arranged for. Rates reasonable. Located on the Delaware Division of Penna. R. R., twenty-five miles south of Wilmington, Delaware.



THE VEIL

Write for
booklet

BOX 204

MIDDLETOWN, DEL.



HILL CREST SANITARIUM

FOR NERVOUS AND MENTAL DISEASES AND ADDICTIONS

Metrazol and Insulin Therapy Used in Selected Cases. Graduation Reduction Method Used in the Treatment of the Addictions

Thoroughly modern in architecture and construction. Eight departments—affording proper classification of patients. All outside rooms attractively furnished. Several bathrooms and rooms with private bath on each floor. Also a spacious sun parlor in each department. Located on the crest of Higdon Hill, 1050 feet above sea level, overlooking the city, and surrounded by an expanse of beautiful woodland. Ample provision made for diversion and helpful occupation. Adequate night and day nursing service maintained.

JAMES A. BECTON, M.D., Physician-in-Charge

P. O. Box 2896, Woodlawn Station, Birmingham, Alabama

Phones 9-1151 and 9-1152

References: Medical profession of Birmingham and Birmingham Chamber of Commerce.

THE JOURNAL

of

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Published Under the Auspices of the Board of Censors

Vol. 9, No. 4

Montgomery, Alabama

October 1939

CHANGING CONCEPTS OF DEFICIENCY DISEASES

By
V. P. SYDENSTRICKER, M. D.
Augusta, Georgia

Rapid progress in the fields of biochemistry and physiology during the past few years has added enormously to our knowledge of the function of vitamins and has made it necessary to revise clinical consideration of the various aspects of nutritional disease. The availability of many of the more important "accessory" dietary factors in pure form has made it possible to begin to understand the relation of individual substances of this group to various symptoms and signs which go to make up the mosaics of different syndromes.

Nutritional health depends not only on the ingestion of a proper quantity of all the various substances required for normal metabolism but on the assimilation, utilization and, in many instances, storage of them. It is likely that normal interaction of some of these substances is equally important. Nutritional disturbances may then arise from many causes other than poor diet. Rapid loss from the body during vomiting or diarrhea is a not uncommon factor in diseases due to lack of certain of the vitamins. Primary disease of the stomach or intestine or functional failure may result in lack of assimilation. Here functional disorder caused by lack of one nutritive element may seriously condition the absorption of several others. Hepatic disease may interfere with storage or with utilization of vitamins or possibly with the derivation of some from their natural sources. Undue or unaccustomed utilization of energy may rapidly use up a normal supply of several members of the "B group." Infection, in addition to in-

creasing the metabolic rate, interferes in an unknown but definite way with vitamin activity. Finally, the function of one vitamin may be seriously impaired by the lack of another, and there is reason to suspect^{1, 2} that absorption of food substances may be governed to a considerable degree by components of the "B₂ fraction" not yet isolated.

Since the vast majority of deficiency syndromes arise primarily from faulty diet, the nature of food eaten by individuals or by groups is important. Human diets, which depend on individual choice or on economic status or on food habits developed by certain populations, are such that it is hardly possible that uncomplicated deficiency diseases due to lack of a single nutritive factor can occur. Many times the presenting signs and symptoms indicate definitely the predominant defect but almost invariably signs or symptoms of coincident deficiencies exist. It is obvious that a diet productive of pellagra is almost necessarily poor in vitamin B₃, in riboflavine and often in cevitamic acid as well. It is quite certain to be lacking in protein and very apt to be deficient in vitamin A. Similarly, a diet which is so low in vitamin B₁ that beriberi results is lacking in other "B vitamins" and protein. It is common knowledge that the diets referred to are ones in which the refined carbohydrate foods are in great preponderance. White corn products, bleached white flour and syrup furnish a tremendous fraction of the energy produced by them. Most of the rest comes from fats poor in the fat soluble vitamins. Fruits and vegetables are often not used even when there is no economic reason therefor. The nature of the entire group of water soluble vitamins is such that they are rapidly used up during the utiliza-

*Read by title before the Association in annual session, Montgomery, April 19, 1939.

From the Department of Medicine, University of Georgia School of Medicine.

1. Groen, J.: The Absorption of Glucose from the Small Intestine in Deficiency Disease, New England J. Med. 218: 247-253, 1938.

2. Barker, W. H., and Rhoads, C. P.: The Effect of Liver Extract on the Absorption of Fat in Sprue, Am. J. M. Sc. 194: 804-810, 1937.

tion of energy. They cannot be synthesized in the human body and they are not stored in any great amount. When intake exceeds requirement they are excreted. With a diet excessive in purified starch and sugar the utilization of energy is very great and the demand for these vitamins increased. Lacking an adequate intake, disease develops when the vitamin-caloric ratio falls. Cowgill³ has been able to construct definite tables for the relation of thiamin to total calories in the production of beriberi. Clinical observation indicates that an analogous but probably less quantitative relation exists between nicotinic acid and certain manifestations of pellagra and between cevitamic acid and scurvy. Diets are productive of disease in proportion to their caloric-vitamin content ratio. Extreme examples of this are seen in the acutely developing polyneuritic and pellagrous syndromes which sometimes occur in the course of severe alcoholism or during maintenance on nothing but glucose solutions given parenterally. Here very many calories are available with great utilization of energy. With no vitamin intake the reserves are rapidly exhausted and severe "deficiency disease" develops. Occasionally scurvy occurs under the same circumstances.

Not uncommonly, deficiency syndromes appear in persons taking a seemingly adequate diet when there is a suddenly increased demand for the expenditure of energy. The causes of increased expenditure may be quite diverse: marked increase in muscular effort, speeding up of metabolism by fever, by thyrotoxicosis or occasionally by exposure to x-rays, and, at times, marked increase in utilization of carbohydrate by diabetics under insulin therapy. Muscular effort is known to precipitate beriberi, scurvy and pellagra. Thyrotoxicosis has been observed to "cause" polyneuritis and pellagra, though fever is a more common exciting factor. We have seen a few diabetics in whom glossitis and delirium followed rapid increase in the daily carbohydrate ration and insulin dosage. It is to be suspected that in all such instances vitamin saturation is incomplete or that unrecognized conditioning factors are present.

It is becoming increasingly evident that disturbances of the gastro-intestinal tract and of the liver play an important part in the production of deficiencies. In certain of the syndromes it is highly probable that deficiency produces changes in these organs which interfere with absorption and utilization of vitamins so that a truly vicious circle is produced. It has been known for very many years that organic disease of the stomach or bowel might be accompanied by pellagra, pernicious anemia or neuritis. Such complications have been properly attributed to lack of absorption of foods. It has also been known that advanced hepatic disease might be associated with these same syndromes and, in addition, to those referable to deficiency of vitamin A or D. Many observers have noted the frequent occurrence of gastric achlorhydria in beriberi, pellagra, scurvy and the syndrome of vitamin A. Fatty infiltration or degeneration of the liver is also frequent if not constant in fatal cases of these avitaminoses.

In pellagra there is reason to think that functional gastric disorder is an important part of the syndrome. Acute pellagra is seldom associated with achlorhydria but with extraordinary nutritional defects consisting of high caloric intake without vitamins. Chronic endemic pellagra on the other hand is accompanied by achlorhydria in some 75 per cent of instances. In those patients who recover free hydrochloric acid in the gastric contents under treatment, relapse is infrequent while in those with irreversible anacidity relapse is almost constant under ordinary circumstances, though it may be prevented by large amounts of yeast or nicotinic acid.⁴ The atrophic changes in the tongue and mucous membranes of the stomach and bowel are apparently due specifically to lack of nicotinic acid since regeneration rapidly follows its administration. Prolonged deprivation seems to result in loss of the secretory function as well as in atrophy of the gastric mucosa and this function can also be restored by nicotinic acid, though secretion of hydrochloric acid does not follow as regularly as apparent anatomical cure. It is possible that there is an intrinsic gastric factor concerned in pellagra

3. Cowgill, G. R.: *The Vitamin Requirement of Man*. Yale Univ. Press, 1934.

4. Sydenstricker, V. P.; Schmidt, H. L., Jr.; Fulton, M. C.; New, J. S., and Geeslin, L. E.: *Treatment of Pellagra with Nicotinic Acid*, South. M. J. 31: 1155-1163, 1938.

since normal gastric juice⁵ and extracts of pigs' gastric mucosa⁶ are rapidly curative. Petri⁷ has produced experimental evidence that the gastric mucosa has an important relation to the utilization of nicotinic acid. In young pigs subjected to total gastrectomy he was unable to prevent the development of "pig pellagra" with large doses of nicotinic acid, while litter-mates with a small fundus pouch remaining were preserved in health by it. Much light might be thrown on the role of the stomach in deficiency diseases by gastrosopic studies similar to those made by Schindler and Serby⁸ in pernicious anemia.

The absorptive function of the intestine is disturbed in several ways by defects of nutrition. Edema, the result of protein deficiency, can interfere seriously with vitamin as well as protein absorption so that multiple nutritional disturbances develop. The same cycle can be set up in a primary beriberi with edema. Diarrhea is frequently present with edema of the intestinal wall from any cause and produces further depletion. Groen has shown that in pernicious anemia and in thiamin deficiency the intestinal wall fails to absorb glucose in a normal manner but under appropriate therapy this function is restored in both diseases.¹ Barker and Rhoads² demonstrated an analogous phenomenon in sprue. Fat absorption, as indicated by the levels of blood lipoids, is markedly impaired but is improved by treatment with liver extract. The mechanism of the control of absorption by vitamins, apparently of the "B group," is still obscure. Infection of the intestinal wall, with or without diarrhea, often seems to prevent absorption or utilization of vitamins even when enough food is utilized to prevent loss of weight. This effect is at times seen in chronic ulcerative colitis and in lymphopathia venereum involving the colon. We have observed the development

of pellagra in such patients while they were taking an adequate diet and having no more than two to three stools a day.

Liver damage can play an important part in the production of nutritional disturbances and in turn seems to be produced by them. Serious hepatic disease interferes with the derivation of vitamin A from carotene and also prevents adequate storage. Both utilization and storage of vitamin D are much diminished in the presence of liver damage. Where there is marked biliary obstruction or a biliary fistula so that bile is scanty in the duodenum vitamin A is not utilized when given orally unless bile salts are administered with it. In pellagra, and less often in thiamin deficiencies, there is marked fatty degeneration of the liver. To what extent this is a manifestation of the atrophic changes due to nicotinic acid deficit is not known. The normal liver stores nicotinic acid amide, riboflavine and a number of other "vitamins" as yet not definitely associated with human disease. Along with these is the hemopoietic factor curative for pernicious anemia. It has been shown that an extract of pellagrous liver may contain an abundance of the hemopoietic factor but lack any curative properties for pellagra.⁹ On the other hand, numerous observers have found the liver in pernicious anemia lacking in hemopoietic substance. In both conditions fatty infiltration of the liver is a prominent finding but in pellagra it apparently does not interfere with adequate storage of the hemopoietic substance though nicotinic acid amide may not be held.

While the various factors noted are of great importance, the actual development of deficiency disease depends on chemical activity and an imbalance within the body between energy production and vitamin supply in the case of the water-soluble vitamins and on demands for repair and maintenance of certain specialized tissues in the case of the fat soluble group. The vitamins of the "B" group are intimately concerned with the derivation of energy from carbohydrate. This process is essentially one of cellular metabolism and probably is the fundamental metabolic procedure upon which the nutrition of all cells depends. Vitamin B₁ func-

5. Sydenstricker, V. P.; Armstrong, E. S.; Derick, C. J., and Kemp, P. S.: On the Existence of an Intrinsic Factor in Pellagra, *Am. J. M. Sc.* 192: 1-8, 1936.

6. Author's unpublished observations.

7. Petri, S.; Norgaard, F., and Bandier, E.: Studies on the Effect of Nicotinic Acid upon Experimental Gastropival Pellagra, *Acta. Med. Scandinav.* 98: 117-127, 1938.

8. Schindler, R., and Serby, A. M.: Gastric Observations in Pernicious Anemia, *Arch. Int. Med.* 63: 335-349, 1939.

9. Sydenstricker, V. P.; Schmidt, H. L., Jr.; Geeslin, L. E., and Weaver, J. W.: The Liver in Pellagra, *Am. J. M. Sc.* (in press).

tions as an activator of coenzymes or in the form of thiamin pyrophosphate as a coenzyme which brings about the oxidation of pyruvic acid and indirectly of lactic acid. The members of the "B₂" fraction, nicotinic acid and riboflavine, which are known to be essential to human nutrition, also are concerned in this process. Nicotinic acid is a component of the coenzymes which are an indispensable link in the system which is active in earlier stages of carbohydrate metabolism. Riboflavine is an essential part of the "yellow oxidation enzyme" which, with the coenzymes, brings about the oxidation of hexose-phosphoric acid to phosphohexonic acid. In addition to this the yellow enzyme may be the sole factor in cell respiration when no hemin substances are present. It is these functions of the "B" vitamins which make the nature of the diet of such importance in the production of symptoms. With excessive carbohydrate ingestion in proportion to the amount of vitamins, the great derivation of energy from the metabolism of carbohydrate uses up available stores of vitamins with resulting failure of cellular metabolism. An habitual intake of refined carbohydrate very poor in vitamins over a long period of time and without supplement produces the syndrome of an "endemic" deficiency, the clinical picture depending on the particular vitamin which has been most nearly absent during the period of malnutrition. Derivation of energy from large amounts of such substances as pure dextrose or alcohol over relatively short periods without supplement will exhaust the supply of vitamins very rapidly and produce the clinical picture of an "acute" deficiency. These are frequently seen in patients maintained for several days on intravenous injections of glucose solutions following operation or because of obstructive lesions of the gastro-intestinal tract. The differences in the manifestations of chronic and acute avitaminoses are largely referable to the time element required for widespread cellular changes. When of long duration these may be quite irreversible. Another phase of the function of these particular vitamins which is only beginning to be investigated is their bearing on the action of insulin in regulating carbohydrate metabolism. Vilter, Vilter and

Spies^{10, 11} have recently called attention to this in their observations on the reduction of coenzyme in the blood of pellagrins and of diabetics in ketosis. We have seen both pellagra and "riboflavine" deficiency develop in diabetic patients while the carbohydrate content of the diet and the daily dose of insulin were being increased rather rapidly. The diets were adequate in vitamins at a relatively low level of carbohydrate utilization but there was evidently rapid exhaustion with the increased demand created by insulin and additional carbohydrate. The addition of nicotinic acid gave prompt relief from pellagrous manifestations. Treatment with riboflavine gave a slow but satisfactory response. It would seem almost certain that the normal action of insulin is in some way conditioned by the presence of adequate supplies of the "B group." Vitamin C also has tremendously important chemical functions in maintaining normal oxidation-reduction processes in the body. These too are fundamental cellular activities and it is not known whether they are directly related to the action of vitamin C in the formation of intercellular ground substance or "cement" in the tissues.

If the underlying chemical importance of vitamins in carrying out the most essential processes necessary to the life and function of cells is kept in mind, many of the contradictory and often entirely paradoxical phenomena of the deficiency syndromes can be reconciled. Diet, while the most common "cause," is effective only in so far as it fails to furnish replacements for substances used up in essentially normal processes of metabolism. When the diet is of such composition that it produces excessive utilization of energy, depletion of vitamins is accelerated greatly. Since several vitamins are usually found together in "necessary" foods and because the members of the B group have closely correlated if not mutually dependent functions, human deficiency diseases are necessarily complex syndromes rather than clinical entities. Many factors other than

10. Vilter, R. W.; Vilter, S. P., and Spies, T. D.: Relationship Between Nicotinic Acid and a Codehydrogenase (Cozymase) in Blood of Pellagrins and Normal Persons, *J. A. M. A.* 112: 420-422, 1938.

11. Vilter, R. W.; Vilter, S. P., and Spies, T. D.: Determination of the Codehydrogenases I and II (Cozymase) in the Blood of Diabetics in Severe Acidosis, *Am. J. M. Sc.* 197: 322-326, 1939.

diet may contribute to deficiency. The state of the gastro-intestinal tract and of the liver are of prime importance. The reciprocal action of vitamins may also be concerned in processes of absorption and utilization. Infection often plays an important part in the appearances of symptoms of deficiency by increasing metabolism and at times by obscure but definite inhibitory or destructive action on vitamins.

THE USE OF VITAMINS IN EYE, EAR, NOSE AND THROAT PRACTICE*

By
RALPH M. CLEMENTS, M. S., M. D.
And
HARVEY B. SEARCY, M. D.
Tuscaloosa, Alabama

In the newer concepts of therapeutics, the tendency toward isolated treatment of any specific part is fast being replaced by that which tends to restore the whole of the organism to its most efficient functional state. We do not intend to depict the work of the internist as being overlapped by that of the specialist; yet, we wish to stress the fact that the use of certain types of medication, notably the vitamin preparations, will of necessity supply parts of the body other than the eye, ear, nose and throat with their share of the deficient vitamins. In the practice of biological medicine, we are becoming more concerned with the metabolism of the whole organism and less with that of any specific part of the body.

There are certain disease conditions, previously thought to be infectious, that are now known to be due entirely to the deficiency of specific dietary components. When referring to a deficiency disease, we now tend to emphasize the deficiency as affecting the whole organism and not any one part. For example, the photophobia which results from vitamin A deficiency is an indication of a generalized vitamin A deficiency of the whole body and not one limited to the retina of the eye involved. When we set about to correct this deficiency, we give the whole body large doses of vitamin A and at the same time correct the local deficiency.

Any discussion of the use of vitamins in the treatment of diseases of the eye, ear, nose, or throat must therefore be directed toward deficiency states involving the whole organism. We should think in terms of the

whole organism, in which the blood, lymph and cellular fluids either do not possess the vitamins or the cells have lost the ability to utilize them after they are transported to the regular places of utilization. Either condition usually results in deficiency.

In the human organism, the administration of vitamins after the development of a deficiency may be compared to locking the door to the stable after the horse has been stolen. The time to be concerned with vitamins is when the patient is in good condition or no more than in the subclinical state of deficiency. Under ordinary circumstances, deficiency of vitamins in the daily food intake may be attributed to either of two reasons: first, an altered, limited, or faulty selection of food; and, second, faulty utilization due to disease, or alteration of the digestive, circulatory or metabolic systems. We must not forget, however, those in whom the deficiency may be attributed to inability to secure proper food because of economic limitations.

Deficiency diseases are practically limited to the two extreme social planes. The more fortunate are able to secure all types of foodstuffs; the unfortunate are unable to procure proper food. It would be very interesting to know how many of you have taken the trouble to outline a plan to be followed in selection of foods which are served to you daily. To be sure, you have dropped an occasional remark that you were getting too much carbohydrates or too much meats, but have you worked out a balanced diet to be used in your own homes? Deficiency disease is rare among the middle classes, and, when found, is usually due to disease or to restricted diet because of supposed disease.

We believe that, in any discussion of vitamin therapy, one should bear in mind the following facts: (1) The natural supply of vitamins is so closely interrelated that a deficiency of any one vitamin is most unlikely. Deficiency of any one vitamin is probably accompanied by a less deficiency of all the vitamins. Conversely, deficiency of a group of vitamins will most likely be manifest by symptoms of single vitamin starvation. (2) Vitamin concentrates should be used to help overcome the emergency deficiency and not relied upon for maintenance. (3) While attempting to refill the vitamin storehouses in the body, all devitalized and devitaminized foods should be eliminated from the diet.

*Read before the Association in annual session, Montgomery, April 19, 1939.

This is true also of maintenance but to a less degree. (4) After overcoming the deficiency, continued administration of vitamin concentrates might result in deficiency of other vitamins. This can best be explained on a basis of one vitamin having a strong affinity for others to the possible extent of extraction from the body tissues. It would appear more logical to cover the administration of any single pure vitamin by a liberal supply of others, somewhat in the same relation as found in nature.

When an individual has health and economic means which permit a bountiful selection of foods, only faulty selection will bring about vitamin deficiency. That is to say, if too much attention is given to satisfying the taste and too little to the needs of the body, deficiency results. Unfortunately, the majority of pleasant tasting foods are highly refined, incomplete as foods because certain important fractions are discarded in the refining process, notably sugar, rice and white flour. Dr. Quigley¹ has very ably expressed such thought as follows: "The most common non-vitamin foods are sugar, white flour, white rice, and macaroni products. These have become common foods. In fact, for the average American citizen they constitute from sixty to ninety per cent of the total food intake. They have become common foods because of a commercial reason. They can be stored and shipped because they are devitalized and devitaminized. They do not furnish a proper food even for insects or germs and so may be handled commercially with considerable ease and profit. The economic situation here involved has forced foods into general use in the civilized world, which, if continued, will mean destruction of those who consume them. A very great number of interlocking organizations connected with the manufacture and distribution of pernicious and unfit food materials has come into existence. They will do anything in their power to continue to sell their goods." We are of the opinion that equally as important are corn starch syrups, glucose, gelatins, synthetically prepared flavors, soft drinks, and refined cooking oils and fats, all of which are devoid of minerals and vitamins.

It has become our practice, in advising patients with allergy or deficiency symptoms, or suspected subclinical deficiency states, to

eliminate the above devitalized and devitaminized foods from their diets. There has been an unfailing improvement from such dietary regulation and we believe this due primarily to the increase of natural vitamins in food taken in the place of refined devitalized and devitaminized foods.

Blackberg and Knapp² have raised a question as to the possible role of vitamin D deficiency-low calcium diet in the etiology of myopia. We have been unable to establish any connection. Our myopic patients, with other manifestations of deficiency, have thought that they could see better after correction of the deficiency.

Pillat,³ in reporting his observations made on Chinese patients with vitamin A deficiency, divides the ocular changes due to the deficiency into the following groups: (1) night blindness, (2) xerosis, (3) xerosis epithelia cornea, (4) keratomalacia, (5) pigmentation of the cornea, (6) meibomitis, (7) blepharitis and hordeolum, (8) decrease of tear fluids, (9) edema and puffiness of the lids, and (10) comedones. He considers xerosis or dryness of the conjunctiva as the second stage of vitamin A deficiency. He states that it manifests itself in four known forms: (1) Bitot's spots, (2) irregular xerosis, (3) loss of luster, and (4) wrinkling of the bulbar conjunctiva, appearing in the order named according to the severity of the deficiency.

Holm,⁴ and Yudkin and Smith⁵ have reported that the human retina is rich in vitamin A. Bloch,⁶ in stressing the necessity of thinking in terms of deficiency as it affects the whole organism, states that "the death rate among children is considerable after their recovery from xerophthalmia; hardly two-thirds of these children reach the age of eight years. After this, development goes on normally. The deficiency leaves no

2. S. W. Blackberg and Arthur A. Knapp: The Influence of Vitamin D-Calcium-Phosphorus Complex in the Production of Ocular Pathology, *Am. J. Ophth.*, April 1937.

3. A. Pillat: The Main Symptoms of the Eye in Vitamin A Deficiency in Adults, *Nat. M. J. China* 15: 585, 1929.

4. E. Holm: Demonstration of Vitamin A in Retinal Tissues, *Acta Ophth.* 7: 146, 1929.

5. A. M. Yudkin, M. Kriss, and A. H. Smith: Vitamin A Potency of Retinal Tissue, *Am. J. Physiol.* 97: 611, July '31.

6. C. E. Bloch: Effects of Deficiency of Vitamins in Infancy, *Am. J. Dis. Child.* 42: 263, August '31.

1. D. T. Quigley: Notes on Vitamins and Diets. Consolidated Book Publishers, p. 111.

characteristic defects except impairment of vision or blindness which persist.

In the treatment of blepharitis, persistent simple conjunctivitis, phlyctenular conjunctivitis, hordeolum, and any disease of the eye involving the cornea, vitreous, choroid or retina, we use plain cod liver oil as an adjunct to the usual treatment. In addition, we instruct the patient to eat more green vegetables and more of the foods that contain yellow pigment, notably bananas, carrots, yellow sweet potatoes and butter. We have recently treated four cases of dendritic keratitis in which the corneal lesions were healed within two weeks. Treatment consisted of one drop of one per cent atropine solution administered at the time of the first office visit, and two teaspoonfuls of cod liver oil three or four times daily at home. Eyeshades were used in all.

Pearson and Hawley,⁷ in a study on the relation of vitamin C to cataract, report a decreased amount of cevitamic acid in the cataractous lens. They were unable to establish any correlation between the content of vitamin C in the lens, urine and blood, except the blood-urine relation, which is physiologic, and a possible age-blood relation. They state that dietary histories in general indicate a lowered intake of foods rich in vitamin C in the old age groups.

Youmans, of the Vanderbilt University School of Medicine, in a recent paper states that fifty per cent of his clinic patients have evidence of vitamin deficiency, and that of vitamin A is most common.

Yudkin⁸ states that the time required for repair of retinal hemorrhage lesions is materially shortened when lemon juice is added to the administration of cevitamic acid. He, Rusznyak and Szent-Gyorgi,⁹ and the authors,¹⁰ have reported that, other than vitamin C, there is an additional something in lemon juice which is effective in breaking down and aiding in the absorption of hemorrhages

of the vitreous, choroid and retina. It is our practice to prescribe the juice of from three to six lemons for all traumatic cases in which there has been hemorrhage into the vitreous or anterior chamber. In ocular disturbances which are characterized by retinal or choroidal hemorrhage, we give a vitamin polypharmacy consisting of vitamins A B C and D, one or more capsules three times daily in addition to the lemon juice. This same treatment is used for early senile cataract patients and they see better. Some are very enthusiastic. A recent case at the time of the first examination had a vision of 20/100 in the affected eye. The above course of treatment was given and six weeks later the vision had improved to 20/30.

Koepcke,¹¹ Sydenstricker¹² and Lewis¹³ emphasize that single vitamin deficiency is not found in clinical practice as a rule. Each states that a diet which gives rise to deficiency of one vitamin rarely contains adequate amounts of any vitamin. We believe the use of multiple vitamin preparations, polypharmacy vitamins, to be sound and logical practice.

Regardless of the type of ocular disease, vitamin-treated patients of the middle-age group always report that they feel much better in general after treatment for a short period of time. We have found that improvement generally begins after about one week of treatment. They are very grateful for improvement and unless cautioned not to do so will often be found to be taking the vitamins after recovery. They occasionally are found to have had the prescription refilled several times, often having prescribed the same for other members of the family.

Feldman,¹⁴ in two separate reports, states that 36 of 47 patients with arteriosclerosis gave deficient dark adaptation tests. It would appear that patients with arteriosclerosis should be given the advantage of a therapeutic test with vitamins. One of our cataract patients with systolic blood pressure over 240, persistent for two years, was given two

7. Estelle Hawley and Ovid Pearson: Vitamin C and Its Relation to Cataract, *Arch. Ophth.* 19: 959, June '38.

8. Arthur M. Yudkin: Vitamins in Treatment and Prevention of Ocular Disease, *Arch. Ophth.* 19: 366, March '38.

9. S. Rusznyak and Szent-Gyorgi: *Nature*, London 138: 137, 1936.

10. Ralph M. Clements and Harvey B. Searcy: The Use of Lemon Juice in the Treatment of Pathologic Conditions of the Eye, *Jarvis Letters*, 1938.

11. Koepcke: Vitamins in Eye, Ear, Nose and Throat Affections, *Lancet* 57: 460, 1937.

12. V. P. Sydenstricker: Extension Course, Internal Medicine, Alabama, 1939.

13. H. B. Lewis: Vitamins in Theory and Practice, Washtenaw County Med. Soc., Ann Arbor, Mich., Jan. 10, 1939.

14. Jacob B. Feldman: Dark Adaptation as a Clinical Test, Further Studies, *Arch. Ophth.* 67: 648, April '37.

capsules of vitamins A B C and D after each meal for forty-five days. There was a gradual reduction of the blood pressure and six weeks after beginning the treatment was 140/90. The cataract extraction was performed and the patient had a most uneventful postoperative course. She requested permission to take one of her vitamin capsules daily for an indefinite period.

Erickson and Feldman¹⁵ have shown in their series that more than ninety per cent of a group of patients suffering with renal calculus had a deficient dark adaptation test. The deficiency persisted after six months of intensive fish oil therapy. They suggested that such patients must have either a faulty absorption or metabolism of vitamin A. Could not a similar condition exist in patients with salivary calculi?

Mendell showed that laboratory animals deprived of vitamin A regularly fell victim to infection, and often such infections could be eradicated by restoring the deficient vitamin to the diet. Koepcke¹¹ says that deficiency in vitamin A reduces resistance to infecting organisms with resultant infection of tonsils, sinuses and ears. He states that the "all-in" feeling following acute upper respiratory infections can be reduced if not eliminated when comprehensive vitamin therapy is given. Cody¹⁶ states that the nasal mucosa is affected before and recovers after the ocular mucosa in vitamin A deficiency. He states that deficiency of vitamin B is identified with a definite nasal syndrome which consists essentially of a postnasal discharge; the posterior tips of the middle turbinates are smooth, moist, creamy white, and slightly thickened. Our observations are in accord with those reported by him. Supplying of the deficient vitamin B usually results in a rapid reduction of the postnasal drip and restoration of the normal appearance of the turbinates. Cameron¹⁷ concludes that vitamin A does not affect the frequency of colds but does reduce the severity and duration. This observation has been substantiated by many others.

15. Erickson and Feldman: Signs of Vitamin A Deficiency Associated with Urinary Stone, J. A. M. A. 109: 1706.

16. Claude C. Cody: Relation of Vitamins A, B, D & G to Otolaryngology, Arch. Otolaryng. 16: 661, Nov. '32.

17. Hazel C. Cameron: The Effect of Vitamin A upon Incidence and Severity of Colds Among Students, J. Am. Dietet. A., Sept. '35.

Knapp¹⁸ and others report very decided improvement of keratoconus attributable to large doses of vitamin D. Abt and Farmer report low values for vitamin C are consistently found in patients suffering with mild coryzal fever, acute pharyngitis, persistent chronic nasal sinusitis, chronic otitis media, and acute respiratory infections. The importance of an ample diet in all febrile conditions should not be overlooked.

Fewell¹⁹ states that, with the exception of vitamin E, all the known vitamins are important in pathology of the eye. In the report of the fourth annual Postgraduate Institute of the Philadelphia County Medical Society (March 1939), it was stated that vitamin B deficiency may produce degeneration of the conjunctiva, as well as paresis of the ocular muscles; vitamin G deficiency may produce cataracts; vitamin C deficiency may produce a tendency to ulceration and hemorrhages in the lids; and vitamin D deficiency in young children may produce cataracts.

The author of an editorial contained in the April 15, 1939 Journal of the American Medical Association states that white wheat flour and white wheat breads contain vitamin D and C in very small amount; vitamin A in insignificant amount; and vitamin B in a not inconsiderable amount. In all other references seen by us white wheat flour and foods made therefrom are reported as completely devoid of all vitamins and containing only a very small amount of phosphorus.

We are often asked to search for a focus of infection in patients whose only complaint is neuritic pain. They usually get relief when given the therapeutic test of vitamin B intramuscularly. We feel that, after a careful search reveals no gross pathologic process, one is justified in administering vitamin B for the purpose of a therapeutic test.

Many patients come to the office complaining of a pain behind the ear, painful swallowing, sore throat, Sluder's syndrome, facial neuralgia, vague headache, pains in the head, and pains in the neck. When no pathologic process possibly explaining the symptoms is found, we administer 2,000 units of vitamin

18. Arthur Alexander Knapp: Vitamin D Complex in Keratoconus; Etiology, Pathology, and Treatment of Conical Cornea, Preliminary Report, J. A. M. A. 110: 1993-1994 (June 11) 1938.

19. Fewell: Philadelphia County Medical Society, Annual Postgraduate Course, The Vitamins in Relation to Disease of the Eye, March 1939.

B intramuscularly daily for four days. This usually results in complete relief of the pain. We always cover the administration of vitamin B concentrate (thiamin chloride) with a liberal oral dosage of vitamin B complex. The same plan of treatment has proven successful in herpes zoster and optic or retrobulbar neuritis. A number of patients suffering with early nerve deafness have obtained marked benefit from intramuscular doses of vitamin B and oral doses of vitamin B complex. This plan of treatment will relieve motor as well as sensory neuritis. The deficiency appears more pronounced when there is motor neuritis. We would like to learn of the experience of others relative to a possible "central neuritis" as the cause of so-called intractable headache. These recover promptly when given large doses of vitamin B. Cochrane²⁰ reports a case of severe pernicious anemia with marked cord damage, unable to walk, or feed self, with ocular paresis in whom two weeks of intensive vitamin B therapy resulted in the patient's being able to walk with assistance and able to pick up objects and had recovery of the motor function of the eyes.

In our opinion the most important element in vitamin deficiencies is that of food selection. If the faults of diet are not corrected, when the deficiency is restored by medication the patient will be experiencing recurrence of symptoms within twelve to fifteen weeks. Other patients who have corrected the faults have been symptom free for more than a year.

When instructing a vitamin-deficiency patient as to the choice of foods, we are particularly concerned with the elimination of devitalized and devitaminized foods. When such are eliminated, the natural foods will be used in sufficient quantity to take care of any ordinary need for vitamins.

SUMMARY

(1) There is a definite place for the use of vitamins in eye, ear, nose and throat practice.

(2) The occurrence of single vitamin deficiency is doubtful.

(3) Faulty selection of foods is a very common cause of the development of vitamin deficiency.

20. Robert H. Cochrane, Jr., Tuscaloosa, Ala.: Personal Communication.

(4) The elimination of devitalized and devitaminized foods from the diet of a patient suffering with vitamin deficiency is very helpful in overcoming the deficiency.

(5) The eye, ear, nose and throat specialist is not without the specialty when he prescribes vitamin preparations.

PEPTIC ULCER

MODERN CONCEPTION OF SURGICAL TREATMENT

By

MARCUS SKINNER, M. D.

Selma, Alabama

I think all of you will agree that the treatment of peptic ulcer, either by medical or surgical therapy, is indeed an important subject. You may also agree with the statement that the surgical treatment of ulcer in Alabama has been greatly neglected. The medical men of our State who have written on the subject have seemingly impressed the profession at large with the fact that peptic ulcer is readily cured by medical therapy and that surgery is indicated only in the grave emergencies that arise in complications of the disease. In conversation with representative men throughout the State one gains the impression that most cases referred for surgery are those in which perforation has occurred or which are actively bleeding. I think it fair to say that for every perforation that comes to operation there should be at least fifty operations done for intractable ulcer in its chronic stage.

I hope at some future time to get the exact statistics for the state of Alabama and I think they will prove startling and an indictment of the mental attitude that makes us tolerate a chronic disease indefinitely when surgery offers a reasonable chance of cure with a mortality rate as low as many other operations of which we think lightly.

In this short paper no effort will be made to argue the relative merits of medical and surgical treatment of duodenal and gastric ulcers. There is no doubt that medical treatment is certainly the treatment of choice in early cases of ulcer and should be tried for at least a year.

If, after a year of thorough medical treatment, there is still x-ray evidence of the lesion and the patient is still complaining of

*Read before the Association in annual session, Montgomery, April 18, 1939.

the symptoms, one can safely say he will continue to have the ulcer the rest of his life and be subject to the grave complications that may follow any chronic ulcer. Moynihan, who probably had as much experience as any other one man with the subject under discussion, said that the death rate from perforation and hemorrhage was greater than the death rate that follows the most radical surgery for ulcer.

The medical men of Alabama who refer cases for surgery apparently believe that the death rate is very high as compared with other standard abdominal operations. Operations properly done for peptic ulcer do not return a higher mortality rate than cholecystectomy or hysterectomy. Up to a few years ago the standard surgical treatment was either a posterior gastro-enterostomy or a pyloroplasty of the Finney-Haberer or Horsley type. A certain number of pylorectomies were done for ulcers involving the pylorus, and, of course, excision of ulcers involving the stomach proper.

In recent years the European school has abandoned these conservative operations and has become convinced that the proper treatment of peptic ulcer is partial gastrectomy. At first our leading surgeons were frankly antagonistic to gastrectomy and it is interesting to note the change of opinion that has gradually occurred in this country.

If one recalls the history of the development of gastric surgery, one finds that Continental Europe has always pioneered in the surgery of peptic ulcer, and that gastro-enterostomy, the original pyloroplasty, the classic resections of Billroth and the popular Polya operation of the present day were imported from the Continent.

Today the successors of these pioneers believe that they have again led the way with radical resection for practically all chronic ulcers. A visit to their clinics leaves one quite impressed with their sincerity and unanimity of opinion in believing that radical gastrectomy is the only operation that can be relied on to really cure an ulcer that has not responded to medical treatment. In the therapeutic attack on any disease its pathogenesis must be considered. The salient fact emerging from much animal experimentation is that hyperacid chyme delivered long enough to the duodenum or jejunum will result in ulceration of the mucosa. Gage, Ochsner and Hosoy, in a recent paper

reporting experimental work on the relationship of gastric acidity to peptic ulceration, conclude that the factors responsible for the production of ulcer are, first, predisposition to ulcer; second, susceptibility of the tissue; and, third, hyperacidity.

It is generally recognized that ulcer is prone to occur in nervous people but the vague state implied by the adjective "nervous" is not specific enough to describe a disturbed physiology that is one of the most fascinating problems in medicine; one that might easily be the ulcer diathesis so frequently mentioned and perhaps the cause of the essential factor of hyperacidity. I refer to that extraordinary clinical syndrome known as autonomic imbalance which is due to dysfunction of the sympathetic and parasympathetic nervous systems; a disturbed physiology characterized by hyperperistalsis and spasms of the alimentary tract, increased gastric secretions, vasomotor phenomena and pathologic activity of certain endocrine glands. The gastro-intestinal symptoms of autonomic imbalance range from slight hyperperistalsis and the symptoms of nervous indigestion to more or less chronic spasms of the pylorus and colon with attendant hypersecretion.

We are greatly indebted to Dr. Crile for his researches and efforts in proving the effect of dysfunction of the sympathetics upon the endocrine glands and the organic diseases that result. He is definitely of the opinion that peptic ulcer is one of the hyperkinetic diseases.

Mucci has advanced data which may be interpreted as indicating that ulcer formation is due to a direct loss of balance between the sympathetic and parasympathetic innervation of the digestive tube. B. F. Muller is of the same opinion. Lande and Fokin were able to demonstrate parasympathetic hyperactivity in 75 per cent of ulcer cases. Balint has emphasized the constant association of hyperacidity with parasympathetic hypertonus and pointed out that the majority of these patients show alkali retention, indicating a hyperacid condition of the tissue. Cushing has been interested in linking autonomic imbalance and peptic ulcer with the midbrain. It is interesting to note that ulcer usually appears in the third and fourth decades of life during the period of stress and strain that coincides with the usual time of appearance of the symptoms of autono-

mic imbalance. The serene countenance of the aged finds its counterpart in a quiet alimentary tract, a relative absence of hypertonus. The Negro, particularly the rural Negro, seems to be singularly free of peptic ulcer and it appears reasonable to assume that his partial protection can be attributed to his stolid nervous system. It is a well known fact that nicotine has a very vicious effect on ulcer patients, and some gastroenterologists have said that they have never obtained a cure by medical treatment when the patient would not give up tobacco. Perhaps this clinical observation is corroborative of the theory of the neurogenic origin of ulcer, because the effect of nicotine in persons of especial susceptibility is exactly that of parasympathetic stimulation, namely, hypertonus, spasticity and hypersecretion.

I have stressed the importance of hyperperistalsis, spasm and increased secretion because it seems of real importance in the explanation of many failures following gastro-enterostomy and the high percentage of cures following gastrectomy.

I think that anyone who has had personal experience with both methods or who has studied the statistics of men who have done an enormous number of gastrectomies will readily admit that gastrectomy will result in more complete cures than the conservative operations. Complete excision of a chronic inflammatory lesion anywhere in the body usually effects a cure and in the case of peptic ulcer, where it is accompanied by ablation of enough of the stomach to insure a low acidity and motor rest, it is not at all surprising that the results are much better than those of an operation that depends for its success upon a doubtful neutralization of acidity, rest of the lesion and questionable control of hypertonus and pyloric spasm.

In evaluating the two operative methods one should inquire if the new radical treatment has disadvantages or if it is followed by unfortunate sequelae of a serious nature or if it is attended by a prohibitive mortality rate. Marginal ulcer, so frequent after gastro-enterostomy, occasionally follows gastrectomy but if enough of the stomach is removed its development is not likely. Occasionally severe anemia has followed gastrectomy.

The mortality rate of certain operators indicates that the rate of men of great experience should hardly exceed that of gastro-enterostomy. Finsterer of Vienna, with an experience of about two thousand gastrectomies, reports a mortality rate of 3.5. Donati of Milan, whose gastrectomy is a model of superb craftsmanship, has a mortality of from 4 per cent to 6 per cent; and the late Lord Moynihan recorded a rate of 1.6 over a twelve-year period. I need not add that in the hands of the average man we cannot expect such splendid results. In considering the classic operation of gastro-enterostomy we must not forget how lightly it can fall on the handicapped and seriously ill patient and the splendid results that have followed its employment. There is no doubt that many technical crimes have been committed in the name of gastro-enterostomy—too small or poorly placed stoma, rotation and angulation of the afferent loop of the jejunum where it joins the stomach, and excessive narrowing of the jejunum at the site of the anastomosis. All such mistakes interfere with perfect functioning of the stomach after operation and predispose to irritation and possible gastro-jejunal ulcer.

Moreover, failure to realize that gastro-enterostomy is only one phase of the treatment of peptic ulcer and that the constitutional background of the ulcer patient is such that he should be carefully treated medically for many months following the operation, every effort being made to get him to lead a life that causes a minimum of parasympathetic stimulation.

I cannot help but feel that both gastro-enterostomy and gastrectomy have definite indications and that we should approach each ulcer patient with an open mind, thoroughly informed of the duration of symptoms, his reaction to previous medical therapy, the present degree of hyperacidity, the condition of the autonomic nervous system and the degree of pylorospasm. Armed with these facts and after viewing the pathology in the abdomen, one should be able to formulate a rational surgical therapy.

In brief, gastro-enterostomy seems indicated in the aged or in the definitely poor risk. It is desirable in the low acid case. For pyloric occlusion due to cicatricial stenosis it is specific. Gastrectomy seems indicated in the very high acid case and as an interval operation in cases that have bled

more than once, in patients with persistent symptoms after recovery from acute perforation and in those cases of marked pylorospasm associated with definite signs of autonomic imbalance.

In regard to technique, the Polya operation, removing at least one half of the stomach and using the full width of the severed stomach for the anastomosis, seems to be the operation of choice.

In my own work I have used both the posterior anastomosis of Polya and the antecolic operation as done by Moynihan, Balfour and Clairmont and find no difference in results. The Polya is apparently a more finished technique, but in the event that further surgery is indicated after resection, it is technically easier and probably less hazardous to correct an antecolic anastomosis.

EMPHYEMA THORASIS*

REVIEW OF PROGRESS IN TREATMENT

By
J. M. MASON, M. D.
Birmingham, Ala.

Empyema has been recognized and treated as far back as there is recorded medical history. As a complication of trauma, sepsis, influenza, pneumonia and kindred diseases, we may expect it to continue with us. Tuberculous empyema is in a class to itself, hence will not be considered in this presentation.

In the fourth century before Christ, Hippocrates practiced intercostal incision, drainage with raw flax, irrigation on the tenth day, followed by the insertion of a hollow tin tent, through which the drain could be placed and shortened daily until the cavity was obliterated.¹ In principle, this practice of 2,400 years ago does not differ materially from that of the present time. After the decline of Greek civilization, the bold method of Hippocrates fell into disfavor, to be revived but not pushed with vigor in the Middle Ages, and, finally, in the late eighteenth century, the most eminent of the British surgeons condemned surgical interference.

Ambroise Pare's conception of the pathology and his plan of treatment are interesting. He said:

*Read by title before the Association in annual session, Montgomery, April 20, 1939.

1. Lund, Fred B.: Hippocratic Surgery, Ann. Surg. 102: October 1935.

"The pleurisie is an inflammation of the membrane investing the ribs, caused by subtle and choleric blood, springing upward with great violence from the hollow vein into the *Azygos*, and then into the intercostal veins, and is at length poured forth into the empty space of the intercostal muscles and the mentioned membrane. Being contained there, if it tend to suppuration, it commonly infers a pricking pain, a fever, and difficulty of breathing. If nature being too weak, cannot expectorate the purulent blood poured forth into the capacity of the chest, the disease is termed an *Empyema*, wherefore the Chirurgion must be called, who beginning to reckon from below upwards, may make a vent between the third and fourth legitimate ribs; and that must be done either with an actual or potentiall cautery or with a sharp knife."²

Between 1812 and 1842, British medical periodicals contain reports of 39 pleural effusions of all kinds treated by aspiration with eleven deaths.³ In a cursory review of textbooks published in the first half of the nineteenth century, we find no reference to empyema in the works of Syme (1832), Sir Astley Cooper (1839), James Miller (1845), or in the Register of Surgical Cases of the New York Hospital for the 25-year period between 1808 and 1833.⁴ In his textbook on surgery, Drewitt of London, in 1849, advocated intercostal incision to evacuate pus, with immediate occlusive dressings to exclude air, which was supposed to induce inflammation and putrefaction. From these sketchy references to the literature, we draw the conclusion that operations involving the thoracic cavity were hardly within the domain of surgery during the period under discussion.

Gross's System of Surgery appeared in 1859. This great American surgeon advocated "tapping the chest," repeatedly if necessary, as had been extensively practiced by Bowditch of Boston. He considered the operation perfectly safe and eminently successful "especially in the absence of purulent matter."⁵

No clear distinction seems to have been made, at this time, between the hydrothorax

2. Major, Ralph: Classic Descriptions of Disease: Ambroise Pare, 1510-1590. Baltimore: Charles C. Thomas.

3. Graham, Evarts; Sanger, J. J.; and Ballou, H. C.: Surgical Diseases of the Chest. Philadelphia: Lea and Febiger, 1935.

4. Pool, E. H., and McGowan, F. J.: Surgery at the New York Hospital One Hundred Years Ago. New York: Paul B. Hoeber, Inc., 1930.

5. Gross, Samuel D.: A System of Surgery. Philadelphia: Blanchard and Lea, 1859.

of heart disease and that of tuberculous pleurisy, or between the pyothorax of tuberculosis and that following pneumonia. Tapping gave symptomatic relief, was often curative, and was extensively practiced.

The description of surgical empyema as given by Gross is terrifying. He speaks of the enormous effusions, often pointing between the ribs, occasionally rupturing externally or into a bronchus; of hectic fever, copious sweats, harassing cough, accelerated pulse, dyspnea, and rapid loss of weight; and says, of the fatal cases, "the disease had often committed irreparable ravages before recourse was had to operation."⁵

In the seventies, surgeons in England, France and Germany were practising aspiration and cannula drainage with indifferent success.

In 1862, Warren Stone of New Orleans introduced the practice of rib resection and drainage of empyema cavities, and the treatment became general in that city. Koenig, in Germany, began to employ this method in 1878, and, by reason of greatly improved results, this became the operation of choice.

Stone is credited with priority in introducing this method of treating empyema, and an interesting account of his case is found in Volume One of the Transactions of the American Surgical Association, in a paper by his colleague, Prof. T. G. Richardson. It is pointed out by Richardson that priority should go to Dr. Albert G. Waller of Pittsburg, Pa., who resected a rib for empyema on Dec. 8, 1857, and reported the operation in the British Medical Journal on Jan. 1, 1860. Stone was not aware of the operation of Waller, and to him is unquestionably due credit for popularizing the practice in New Orleans where the operation was in general use for many years before it was taken up by Koenig.

Those who may have thought that the use of Dakin's solution for irrigation of empyema cavities began with the employment of the Carrel-Dakin method of treatment of infected war wounds will be interested to know that Stone employed a "warm solution of chlorinated soda" for irrigation of the cavity in the case which Richardson reported.

At this period, many empyemas reached the chronic stage; hence, between 1869 and 1890, the operations of thoracoplasty and decortication were developed for the pur-

pose of obliterating persistent cavities and draining sinuses. Many of the operations put forth were extensive and dangerous, and few of them were entirely successful.

Reviewing the publications of the late nineteenth and early twentieth centuries, interesting sections on empyema are found in Ashurst's International Encyclopedia of Surgery (1894), Jacobson's Operations of Surgery (1902), Von Bergmann's System of Surgery (1904), and Keen's Surgery, (1908-13). There was practical unanimity in these writings concerning indications for treatment.

Von Bergmann's System, a joint production of three great German surgeons, Von Bergmann, Bruns and Mikulicz, was translated by Wm. T. Bull of New York, and received the hearty endorsement of Halsted. It profoundly influenced American surgery. Von Bergmann laid down this fundamental rule: Remove pus as early and as thoroughly as possible, and secure adequate drainage as long as any secretions are present. He recommends rib resection and tube drainage; recognizes that acute pneumothorax will follow and persist for some time, but considers it of minor significance; considers intercostal drainage less satisfactory than rib resection; does not favor puncture or closed cannula methods; considers Bulau's hydraulic or negative pressure method as the only puncture method of value, but criticises it for its ineffectual drainage and for the frequent necessity for secondary operations; he knows of no reason for modifying the treatment in children, and always resects a rib.

George E. Brewer wrote the chapters on empyema in Keen's Surgery, and follows the same general lines of treatment as those of Von Bergmann. For hastening the expansion of the lung, he recommends blow bottles and the negative pressure method of Bryan; also a negative pressure device of his own. He condemns Murphy's glycerin-formalin injection treatment, but speaks favorably of Beck's bismuth paste.

We have selected as representative of current hospital practice of this period, a report by Wilensky of 299 cases of acute empyema treated at Mt. Sinai Hospital for the ten-year period from 1905 to 1915. The mortality rate was 28 per cent. He says: "Aspirations, intercostal incisions, glycerin-formalin injections, and suction drainage proved

disappointing, and thoracotomy remained the method of choice." Irrigations were not routinely employed.⁶ In addition to its many other interesting features, the paper calls attention to one extremely important fact, the generalized knowledge of which would have saved many lives in the epidemics of 1917 and 1918. He says: "One notes the gradual decline of mortality the longer the pus has been present in the chest," but warns that "this should not be interpreted as meaning that empyema should not be operated on until a late period, but that it should not be done when the pus is thin and has been present for only 24 or 48 hours." He states that Werner called attention to this in 1913.⁶ It was to be brought more forcefully to the attention of the profession by Graham and Bell in 1918.

In 1917 and 1918 empyema became a major surgical problem in the United States Army. The prevailing practice, based almost entirely on experience with pneumococcus empyema in civil life, was to perform an open operation as soon as the presence of pus, even microscopic in character, was detected. With the pernicious type of streptococcus, which was the most frequent invading organism in this epidemic, this plan of treatment was attended with a frightful mortality, making it imperative to seek some safer method of treatment. John Stewart Rodman gives an interesting account of his experiences in treating some 250 cases at Camp Bowie, Texas, and at Fort Oglethorpe, Ga.

The first 50 cases, treated by immediate intercostal incision and drainage with large tube, gave a mortality of 45 per cent. The next 100 cases were subjected to repeated aspiration until the fluid became frank pus. Rib resection was then carried out and the mortality rate dropped to 18 per cent. The next 100 cases were subjected to the same plan of treatment, but with the addition of irrigations with Dakin's solution, started one week after thoracotomy, and the mortality fell to 10 per cent.⁷ This general plan was adopted by the Empyema Commission of the Army, and resulted in a stabilization of the death rate at a fairly satisfactory level, but not before many soldiers had reached

the chronic stage from which they recovered, if at all, only after prolonged hospitalization and many secondary operations. An unusually high death rate had prevailed at Camp Pike, and Lieut. Diederich reintroduced the trocar-cannula-catheter method with an immediately lowered death rate and many recoveries. The results, however, did not justify the claim that there were no recurrences, as was proven later by observations at other hospitals.

A report by Lieut. Col. Tinker and Capt. Wattenburg from Fort Des Moines, one of the Empyema Centers which the Army had set up to care for the unhealed cases after the epidemic had spent its force, revealed that almost invariably the main factor in the production of chronicity was inadequate drainage. They observed many cases which had been treated by aspiration without a cure, and of 21 cases that had been treated by the trocar-cannula method secondary rib resections were required in all but one.⁸

Later on, a group of still more chronic cases that had been subjected to many unsuccessful operations during the previous three or four years were sent to Walter Reed Hospital. Col. W. L. Keller reported, in 1922, his results in 40 such patients. He lists the following conditions as contributing to chronicity: osteomyelitis of the ribs; accessory pockets; foreign bodies, such as rubber tissue, drainage tubes, bismuth paste; infection by hemolytic streptococci; and such constitutional diseases as tuberculosis and syphilis.

These patients were treated by open thoracotomy in stages, thorough chemical decortication with Dakin's solution, occasionally by surgical decortication, and finally by plastic closure. Of 40 cases so treated, 35 were successfully closed, two left before completion of treatment and three died.⁹

Thorough investigation of every phase of empyema has followed the World War experiences. We can now, twenty years later, obtain a better perspective than was possible at the time when those chapters in the history of empyema were in the making. We

6. Wilensky, A. O.: *Empyema of the Thorax*, Surg. Gynec. & Obst. 20: May 1915.

7. Rodman, J. Stewart: *Empyema*, Ann. Surg. 70: July 1919.

8. Tinker, M. B., and Wattenberg, J. E.: *Treatment of Chronic Empyema*, Ann. Surg. 70: November 1919.

9. Keller, W. L.: *Treatment of Chronic Empyema Where the Recognized Surgical Procedures Have Failed to Produce Obliteration*, Ann. Surg. 76: November 1922.

are also in position to evaluate the advantages which have accrued to us from progress along general scientific lines. The most important of these in respect to thoracic surgery are:

Increased accuracy of diagnosis by the employment of x-rays; increased safety of operation by reason of improved methods of anesthesia; more accurate knowledge of the pathology of the disease by the study of its bacteriology; and the more rapid convalescence brought about by the judicious employment of blood transfusions and other modern therapeutic measures.

Empyema now presents the same problems which have always characterized it, and in recent years all the previously employed methods of treatment have been again tried out, in commendable efforts to simplify operations, to sterilize infected cavities and hasten their obliteration. The relative advantages and disadvantages of aspiration, closed trocar-cannula drainage, and open thoracotomy have changed but little if at all.

In general it may be said that 65 to 75 per cent of cases treated by aspiration may recover after prolonged treatment; that a death rate variously estimated as between 8 per cent (Strong) and 12.8 per cent (McEney & Brenniemann) attends the method; that 25 to 35 per cent will require open operation for final cure. The average time of hospitalization, as reported by McEney & Brenniemann, was fifteen weeks.¹⁰

Aspiration followed by air injection has been put forward by Danna, who reports a series of 35 cases with 5.7 per cent mortality.¹¹

Attempts to sterilize closed cavities by the introduction of chemicals have not proven successful, and the only uniformly successful method of chemical sterilization has been by the employment of Dakin's solution in combination with the freest possible drainage.

The most enthusiastic advocate of closed trocar-cannula operations admits that the postoperative management requires the most unremitting care and the most skillful attention to details in order to maintain unobstructed drainage through the small tubes which are employed. In all reports a very

considerable percentage require secondary operations, the convalescence is more prolonged than in open methods, and, in most comparative reports, the death rate is higher. B. C. Willis has the lowest mortality that I have noted by this method: 104 cases in children with a mortality of 4.8 per cent.¹²

Concerning the type of effusion which should be classed as a true empyema, I quote the following from Graham and Berke:

"It is perhaps advisable to call attention to the fact that nearly every case of acute pneumonia will reveal some fluid in the pleural cavity if aspiration is performed. This fluid is serofibrinous or serohemorrhagic. Even though leucocytes and bacteria may be found on microscopic examination, it does not indicate an empyema in the sense of a true abscess. In most cases this fluid will be absorbed as the pneumonia clears. Statistics, therefore, based on the recovery of such patients after aspiration or continuous closed drainage, are often misleading."¹³

Carlson and Bowers, in discussing negative pressure in connection with closed drainage, call attention to the fact that negative pressure is not always assured.¹⁴ Others have made the same observation.

No objection can be raised against thoracotomy through intercostal incision, provided the intercostal space in a given case is wide enough to permit the introduction of a tube of sufficiently large caliber. To guard against contraction of the opening during the process of healing, Singleton has devised an ingenious silver cannula which maintains the patency of the wound in the soft parts until the cavity is obliterated. He has treated 150 cases by this method, with a mortality rate of 8 per cent.

OPEN THORACOTOMY

The history of empyema discloses that aspirations and closed drainage have never been satisfactory methods of treatment. Though revived from time to time, they have had to be augmented by secondary drainage operations or have been abandoned in favor of the more reliable method of open drainage.

Based on experience in civil life in dealing with pneumococcus empyema, immediate open drainage had long been the standard

12. Willis, B. C.: Simple Treatment of Empyema in Children, *Ann. Surg.* 107: May 1938.

13. Graham, Evarts, and Berke, Maurice: Principles versus Details in the Treatment of Empyema, *Ann. Surg.* 98: October 1933.

14. Carlson, H. A.: Acute Empyema: Mortality, Healing and Methods of Treatment, *Internat. S. Digest*, Vol. 18, No. 3, September 1934.

10. McEney, E. T., and Brenniemann, J.: Aspiration in Empyema of Children, *J. A. M. A.* 95: 298, 1929.

11. Danna, Joseph: Treatment of Empyema by Aspiration and Air Replacement Without Drainage, *J. A. M. A.* 96: 298, 1931.

method of practice, the correctness of which was never questioned until the profession was confronted in 1917 and '18 with another type of empyema caused by the streptococcus hemolyticus, in which fluid accumulated early and in large quantity, and was slow in becoming frankly purulent. When it was pointed out by Graham and Bell in 1918 that early open thoracotomy in these cases resulted in massive acute pneumothorax with great fatality, the practice was discontinued, and preliminary aspirations or temporary closed drainage was employed to relieve pressure until fluid assumed the consistency of thick pus. When this period was reached, open operation could then be carried out safely and with a satisfactory reduction in mortality.

With the one modification of delaying open drainage until a safe period had been reached instead of operating immediately upon the detection of pus, open thoracotomy, preferably by rib resection, preceded when necessary by repeated aspirations or temporary closed drainage, remains the plan of treatment which is attended with the least discomfort and confinement in bed, the greatest simplicity in the after treatment, the lowest mortality, and the smallest likelihood of developing chronicity.

In support of these claims, one has only to refer to any comparative collection of cases treated by different methods, and to the expressions of opinions of recognized experiences. Specifically may be mentioned Graham's chapter on Empyema in his *Surgical Diseases of the Chest*;² Carlson and Bowers' paper on Acute Empyema (*International Surg. Digest*, September 1934); and Steink's paper on Acute Empyema in Children (*Annals of Surgery*, January 1935).

REDUCTION IN MORTALITY

Intensive study and a carefully followed plan of treatment of empyema in Birmingham during the past ten years, more particularly in the Children's Hospital and in the pediatric wards of the Hillman Hospital, have resulted in a gratifying reduction in mortality.

In 1929, I reported a collected series of forty cases from the Children's Hospital with a mortality rate of 15 per cent.¹⁵

15. Mason, J. M.: Observations on a Series of Forty Cases of Empyema in Children, *Tr. South. S. A.* 42: 384-390, 1929.

In 1935 a collected series of 103 cases from the Children's Hospital and from the pediatric wards of the Hillman Hospital showed a mortality rate of 7.76 per cent.¹⁶

I am now able to present a personal series of 71 consecutive cases in children, treated by rib resection and open drainage, with two deaths; a mortality rate of 2.81 per cent.

No matter what method of drainage may be employed, it is the duty of the surgeon in charge of an empyema case to maintain direct control of the patient until the cavity is completely obliterated. The after care should never be delegated to anyone less skillful in its management than himself.

By constant observation alone is the surgeon able to detect and promptly relieve obstructions to drainage, to locate and evacuate encysted collections of pus, or to relieve re-accumulations which sometimes take place if a tube has been removed too early. Only by the exercise of such control can the patient be insured against delayed convalescence, the development of a chronic sinus, or a possibly fatal outcome.

OBSTETRICS IN RELATION TO MATERNAL MORBIDITY*

By

JERRE WATSON, M. D.
Anniston, Alabama

In order to prevent morbidity following childbirth, it is essential that careful study be given every obstetrical case during the period of pregnancy. Much has been taught and much accomplished toward getting women to consult the chosen physician before the onset of labor. Women are coming before that time, but they are still not coming early enough. Let us continue our teaching till we impress the importance of every woman's seeking medical care when she first learns that she is pregnant.

A general physical examination at the earliest possible period is important. This examination should be at least as thorough as one would make for determination of life insurability. This would reveal the condition of the vital organs, so that essential steps could be taken to conserve those organs that reveal evidences of impairment.

16. Mason, J. M.: Acute Empyema in Children, *J. A. M. A.* 105: 1114-1118 (Oct. 5) '35.

*Read before the Association in annual session, Montgomery, April 18, 1939.

The impaired heart should be watched and, if necessary, protected against the peril of toxemia or permanent impairment as the result of a prolonged or difficult labor. The patient should be kept free from every form of strain that would add to the heart's burden. The strain from nervousness or worry is to be considered along with physical exertion. This means that the medical adviser must enter through tact and understanding into the problems of the patient's life and help her to adjust herself to her environment and circumstances. That is but to say that we need to depend less upon drugs and other measures for correcting a disease after that disease has appeared and to exercise more guidance over the lives of our patients that we may prevent the development of disease conditions. If the state of the heart is one that will endanger the patient's life at the time of labor or lead to permanent invalidism with a shortening of the span of her life, induction of labor should be done.

The kidneys are to be watched at regular intervals. Here diet and elimination become important factors. If these, with the use of indicated drugs, do not appear to protect against permanent impairment, induction may become advisable.

There are many vexing problems relative to pregnancy that confront the expectant mother. The added financial responsibility incident to the labor and the puerperium, as well as those related to the care of another member of the family; the curtailment of the usual individual activities in the family, in the social relations and in the business life of the woman; the strain upon the physical economy; an antagonistic or critical attitude on the part of the husband and other relations and even friends; the dread and often the actual fear of the labor itself all add a nervous strain that makes the patient susceptible to disorders of the nervous system with the possible development of a permanent neurosis or temporary or even permanent insanity. The attending physician may be prone to treat with indifference or disdain this state of the patient with dire consequences to the future health of the woman. Unless he is alert, intuitive, understanding and sympathetic he may even fail to detect the existence of problems which threaten the stability of his patient. Certainly these failings on the part of the obstetrician will prevent him from directing the patient into

proper channels of living and thinking that she may be spared a morbid state that may handicap her for life and leave an unhappy impress upon her progeny and the coming generation. The physician should feel the tremendous responsibility that rests upon him in the matter of conserving the maternal strength which is the very fountain-head of race integrity—physical, mental, and moral.

General measures for the conservation of strength must be given expert attention and not left to the chance judgment of the patient or the well-meaning but inadequate and often positively harmful advice of other women. Consequently, the expectant mother should be given printed instructions in regard to diet, sunshine, rest, fresh air, exercise, dental care, water internal and external. Nor is this all: A few pointed questions at the time of regularly appointed office visits will make possible detection of how well the instructions are being understood and obeyed.

Besides the foregoing important but admittedly elementary considerations, there remains the more technical care of the genitalia and breasts. To facilitate a clearer understanding of the profound possibilities of infection in these fields, it is well to understand the lymphatic distribution.

In the case of the breasts, the nipple is drained by the subareolar plexus which communicates via collecting vessels with subclavian, central, brachial, delto-pectoral, subscapular and anterior pectoral lymphatic nodules above and lateral to the breast and medially to the internal mammary nodules. From these nodules communication may be established through the chest wall with the lung and the mediastinum. Except in malignancies of the breast we are prone to give scant attention to this wide distribution and the serious results that may follow. In carcinoma the surgeon does a radical breast amputation in the hope that eradication of the lymphatic nodes and vessels may prevent wide dissemination of the cancer cells. Infection follows the same course of dissemination. Since it can not be removed as can the cells of cancer, it behooves the physician to prevent infection.

Whether low grade infection and irritation from lactation is a cause of cancer of the breast may be questioned by some. Yet that such is the case may reasonably be assumed because of the more common occurrence of

breast cancer in women who have borne children. Infection is more common in primiparae than in multiparae, although chronic mastitis is more evident in multiparae. This evidence is, we believe, often due to trouble experienced during the first lactation period which has left a permanent impairment of the breast or susceptibility to infection. Consideration of the lymphatic distribution leads to the suspicion that many chronic conditions in the chest have had their incipency in lactation.

With these considerations, the measures the obstetrician may use for combating infection become apparent. All pregnant women, especially primiparae, should be given careful instructions for prenatal care of the breasts. Instructions for protection against trouble should be detailed to the attendants when the baby has been born and the physician himself should see that the breast is kept in good condition throughout the establishment of lactation. This care should not be limited to primiparae but should be extended to women who have had one or more previous labors, especially to those whose history reveals prior trouble with the breasts. Engorgement should be controlled; fissured nipples should be treated early; diet should be directed; elimination should be maintained.

The lymphatic distributions of the genitalia are even more complicated and equally as extensive. Lymph vessels from the labia, the hymen and the floor of the vestibule pass upward and outward to the inguinal glands. Also some may connect with the lymphatics of the urethra and vagina and pass inward. From both the latter the lymphatic vessels pass backward directly to nodules in the interior of the pelvis. These vessels also probably extend laterally to the superficial and deep inguinal nodules and through these connect with those lying on the external iliac arteries. From the upper vagina and lower cervix, lymphatic vessels enter nodules on the pelvic floor and then accompany the uterine and internal iliac vessels to the system at the bifurcation of the common iliac arteries. Thence they pass over the artery to a nodule often found on its upper side and so on up to the lumbar nodules. The vessels from the body of the uterus pass out through the mesosalpinx near the ovarian attachment and up the suspensory ligament of the ovary to the lumbar nodules or they may course

down the round ligaments to the deep inguinal nodules.

This lymph distribution not only reveals the channels of extension of malignancies, but it also shows the course of invasion by bacteria or their toxins. This mechanism shows how infection from any portion of the birth canal may cause morbid processes in any of the pelvic organs and by continuing upward produce pyelitis and ureteritis with their chronic manifestations—ureteral stricture, for example. It, therefore, becomes the duty of the obstetrician to prevent as far as possible the introduction of infection by vaginal examinations or manipulations. After the birth has been completed examination should be made for tears of the perineum and the cervix.

Cervical lacerations lead to definitely disabling processes. They open up lymphatic channels which permits invasion of the pelvis. They produce a change in the epithelial cellular structure of the cervix and so lead to cervical erosion and chronic cervicitis and endocervicitis—foci of infection with the same possibilities for morbidity that characterize focal infection elsewhere. This change in epithelial structure leads to inclusion of secreting cells with formation of cysts and mucous or muco-purulent discharge. They provide a favorable condition for the development of cervical carcinoma—the most common malignancy among women. Headache, backache, pelvic pain, dysmenorrhea, nervousness and other symptoms all characterize cervical pathology and are important factors in producing disability.

These sequelae of accidents incident to labor may be prevented by immediate repair of lacerated cervixes. This repair should always be done when the labor has been conducted in a hospital and, when the attendant is confident of his asepsis and antisepsis, it should also be done in cases attended at home.

The technic of immediate repair is simple. With a Gelpi or other vulvar retractor the cervix may be exposed and caught in sponge forceps or a tenaculum and brought down so the damage can be seen. No. 1 10-day or 20-day chromic gut should be used as interrupted sutures to produce accurate apposition of the edges of the rent. Cervical repair should precede vulvar and perineal restoration and strict attention to prevention of

infection must be exercised in performing this operation.

Unrepaired perineal lacerations involving the muscles should be regarded as herniations which lead to pelvic visceroptosis. Rectoceles, cystoceles, uterine misplacements, uterine decensus, ovarian prolapsus all result from neglect of such occurrences and all contribute a serious train of symptoms which lead to more or less definite invalidism.

All perineal tears of every degree should be repaired at once whether the delivery has taken place in the hospital or in the home. The labia should be separated and the vulvo-vaginal mucosa should be carefully inspected for tears. These are often found on the lateral walls and along the anterior walls to either or both sides of the urinary meatus as well as on the posterior aspect. When these are found they should be closed with number 0 or number 1 plain catgut so as to seal the lymphatic vessels which have been opened. In doing this, due attention should, of course, be paid to both asepsis and anti-sepsis.

If the lacerations prove to be deep enough to involve the muscles of the pelvic floor, those muscles should be carefully approximated with chromic catgut so as to leave no dead space for accumulation of serum and multiplication of bacteria. The mucosa and skin may be approximated either with 20-day chromic gut or, which is better, with silk or silkworm gut. Catgut produces reaction with tissue digestion or necrosis and for this reason often must be removed before complete absorption. Thus they usually are in no respect superior to the non-absorbable sutures.

These suggestions have been made in the hope that conscientious and scientific attention during the periods of pregnancy, parturition and the puerperium may be stimulated so that the health, happiness and efficiency of many women may be preserved for themselves, for their families, and for civilization.

Rabies—When should a person bitten by a warm-blooded animal receive rabies vaccine?

1. If the animal shows clinical or laboratory signs of rabies.

2. If the animal is unknown, or has disappeared, or has been killed before rabies could be proved.

3. If the skin or mucous membrane of a patient has been exposed to the saliva of a rabid dog.

4. Persons bitten by sick animals with suspicious symptoms of rabies, whether or not the suspicions are confirmed clinically, should be treated until rabies is adequately ruled out.

5. Bites on or around the head should be treated immediately until rabies has been ruled out absolutely.

The suspected animal should be observed in a cage, preferably in the care of a veterinarian. The rabid dog usually tries to run away. If the animal is alive after ten days and is well, it probably does not have rabies. If the animal is well at the time of the bite, adequate care has been given to the wound, and the wound is not on the face or head, there is no need to begin treatment at once. But the public and even physicians feel that there is some vast, unknown period of safety after bites of suspected rabid animals, in which it is all right to wait and be sure that the animal has rabies. This is wrong; the time is too short. If our goal is to be 100 per cent protection against this horrible disease, we must not delay an instant longer than is absolutely necessary to institute every phase of treatment. If there is the slightest indication that the animal is rabid, it is my opinion that vaccine therapy should be instituted until the animal is proven not infected. If the animal dies while under observation treatment should be started and the brain or head sent to a pathologist who will make a diagnosis microscopically and possibly by an animal inoculation. If any or all of the tests run prove positive for rabies, treatment should be continued. If negative, treatment can be stopped with little harm done. Some may feel that this plan is radical. I feel that it is ultraconservative, for the incidence of post-vaccine therapy paralysis and reaction have diminished remarkably since the advent of the new killed virus vaccine therapy as brought out by Semple of India and Cummings of Michigan. By these methods the mortality attributed to immune therapy has been reduced as low as .01 per cent. By their use the total accidents are low, and the occurrence of fatal accidents extremely low.

No human case of rabies has ever been cured. Therefore, when we speak of treatment, it must always be in the field of preventive medicine. The most satisfactory means of preventing human rabies would be to completely eradicate it from our domestic animals. Rabies can be and has been eradicated from countries, but once the bars are let down it creeps back.—Wassell, *Texas State J. Med.*, September 1939.

NEXT ANNUAL MEETING

BIRMINGHAM

APRIL 16, 17, 18, 1940

THE JOURNAL
of the

Medical Association of the State of Alabama

Editor-in-Chief

FRED W. WILKERSON Montgomery

Associate Editors

M. Y. DABNEY Birmingham

W. D. PARTLOW Tuscaloosa

J. N. BAKER Montgomery

DOUGLAS L. CANNON Montgomery

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

Office of Publication

519 Dexter Avenue.....Montgomery, Ala.

Subscription Price.....\$3.00 Per Year

October 1939

TREATMENT OF DELIRIUM TREMENS

"Beyond the fact that delirium tremens occurs in habitually severe and chronic alcoholism and that it frequently follows injuries, operations and acute infections, little is known of the actual etiologic factors at play. Since this syndrome was adequately and accurately described as long ago as 1813, it seems remarkable that no real attempt has been made to study the physiologic and chemical changes which accompany it. The more recent therapies, which have included various means of dehydration and repeated spinal drainage, are all based on the observation that at autopsy persons with delirium tremens frequently show cerebral edema. Such therapy, however, takes no account of the generalized dehydration and manifest toxicity which all these patients show and, furthermore, ignores many pathophysiologic phenomena which not only exist in these patients but are probably of at least equal importance.

"In the prodromal period of delirium tremens the patient often experiences a disgust for alcohol sufficient to cause abstinence for several days. The acute gastritis and hepatitis which so many patients have often make it impossible for them to retain anything by mouth, including alcohol. It is this type of abstinence which has often been mistakenly considered a cause rather than a result of delirium tremens. The studies of Piker showed conclusively that between 75 and 90 per

cent of patients have delirium tremens while still drinking. The administration of alcohol, therefore, either to prevent delirium tremens or as a subsequent therapeutic measure, has no basis in fact, and, furthermore, often presents an unsurmountable psychologic barrier in the further treatment of such patients. As additional proof of the minor importance of abstinence in the production of delirium tremens, it is noteworthy that in only a few of the 10,000 alcoholic addicts admitted each year (to Bellevue Hospital, New York City) does delirium tremens develop in the ward. It is our impression that, even in these few, toxic and infectious factors play a far more important part in the production of the delirium."

The above are the opening paragraphs of the recently published study of this subject by Bowman, Wortis and Keiser.¹ The authors hold that sedative medication is usually necessary but warn us against excessive sedation. They caution us particularly against the use of morphine because it increases intracranial pressure and may mask the signs of an associated intracerebral or intra-abdominal injury. They "believe that paraldehyde is the most innocuous, the most rapidly eliminated and the most uniformly effective of all sedative medicaments in the treatment of alcoholic delirium." The investigators believe that fluids should be forced and that large amounts of carbohydrates should be given. In their experience orange juice is liked and well retained by alcoholics. "As there is evidence of hepatic dysfunction in all cases of delirium tremens, administration of dextrose undoubtedly helps to remedy the deranged metabolic processes therein." We are further informed that the authors give capsules containing 2 grams of sodium chloride to these patients every four hours. It is claimed that sodium chloride, either by mouth or parenterally, causes these patients to quiet down because it combats both the dehydration and acidosis from which they suffer so severely. Mechanical restraints are advised against unless absolutely necessary and the New York observers report that such restraints are gradually being abolished as the treatment of delirious patients becomes more scientific. And the authors wish "to make it clear that lumbar puncture perform-

1. Bowman, Karl M., Wortis, Herman, and Keiser, Sylvan: The Treatment of Delirium Tremens, J. A. M. A. 112: 1217 (April 1) '39.

ed on admission of these patients is for diagnostic purposes only and not for the specific treatment of delirium tremens."

Only those who have struggled with patients in alcoholic delirium or hallucinosis fully realize how difficult they can be and how ineffective and futile most of the alleged remedies are. It was for this reason that lumbar puncture as a therapeutic procedure so quickly became popular, once its efficacy became known. All will agree that it is not without its dangers, but there are those who will regard with skepticism the Bellevue clinicians' admonition to "do lumbar punc-

tures for diagnostic purposes only."

Bowman, Wortis and Keiser have presented a splendid study of this very prevalent and rather poorly treated condition and it is to be hoped that their excellent advice and sound conclusions will be heeded. Prohibition comes and goes, drinking customs and fashions change with the passing years, but delirium tremens we have with us always. And, since we are apparently unable to eliminate the more baneful effects of alcohol, it behooves us to seek out the best means possible of treating them once they have occurred.

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

THE LEGISLATURE OF 1939

By

J. N. Baker, M. D.,
State Health Officer

The discussion which follows will make no effort to deal with legislative matters other than those of immediate interest and concern to the medical profession and its health department, which received consideration at the hands of the 1939 Legislature. The daily grinds of this body as it tussled with the hundreds of new bills dropped into the legislative hopper were more or less adequately portrayed in the daily press from which the reader could form some opinion as to the relative merits or demerits of at least some of the more controversial things which were receiving consideration. During the two sessions, 47 of the 50 legislative days permitted by law were used up, leaving three days for another session in June 1940, at which time the Judiciary Committee is expected to make its complete report on the recodification of the state laws, as well as to give consideration to certain other unfinished business.

The first session of this Legislature extended from January 9th to March 31st, 1939; the second, convening July 18th, adjourned on September 15th, 1939. The first session was given over largely to the piloting to the statute books of certain administrative measures considered by the Gov-

ernor of outstanding importance, some of which required amendments to the State Constitution. Consequently, but few bills of a less urgent nature, even though introduced, received final consideration before adjournment. During the interval between the two sessions, recess committees composed of members from both the upper and lower houses held frequent hearings on bills already introduced. The most important of these recess committees was that on finance and taxation whose recommendations regarding appropriations to be made to the several departments were accepted by both houses, largely without question and with but small chance for alteration or debate.

APPROPRIATIONS TO THE HEALTH DEPARTMENT

To the Committee on Finance and Taxation had been referred three bills seeking to provide a moderately increased appropriation to the health department in order to better care for some of its more urgent problems. The first sought an annual increase of \$100,000 to the present appropriation for general health work fixed at \$430,000 by the Legislature of 1932, during the height of the depression. This increase appeared to the State Committee of Public Health, the State Health Officer and to the medical profession to be urgently necessary and fully justified, in view of the completion of health organisation for every county in the State

and of the need for strengthening and expanding health activities in several important fields, which, because of limited finances, could not be successfully prosecuted. It should be recalled that, since this appropriation to the health department was fixed by the Legislature seven years ago, the state's revenues have been tremendously increased through the enactment of the income tax, the sales tax and the liquor tax; also that during this seven-year period, heavy and increasing demands, born of an appreciation on the public's part, of the value of organized health services, were being made.

The second and third of these appropriation bills sought further state aid for counties in the health department's state-wide program in its fight against tuberculosis. In the absence of state-operated institutions for the control of this disease, such as are now maintained for mental cases, the urgent need for such aid is all too patent, if real progress is to be made against tuberculosis. One of these bills sought a moderate increase in the state's present annual appropriation of \$75,000 to counties for maintaining their local sanatoria; while the other sought to extend state aid to counties or districts for the construction of sanatorium facilities where needed and where satisfactory plans could be worked out. The need not only for better hospital facilities for the tuberculous but also for general hospitals throughout many of the rural sections of the United States, and particularly in the South, had been pointed out by the Technical Committee on Medical Care selected to study and report upon the nation's needs in these fields; and, in the report submitted to the President, definite recommendations were made that federal aid, where need could be shown to exist, should be extended states in coping with these problems. Furthermore, the House of Delegates of the American Medical Association, in special session, approved the principles involved in these recommendations. In the last Federal Congress a bill, known as the National Health Act, which was introduced, sought to implement this and other recommendations made by the Committee. While this bill failed of passage, it appears quite likely that, at the next session of the Congress, effort will again be made to provide such federal aid to states, and it was in anticipation of this con-

tingency that this state legislation was introduced. Despite the State Health Officer's efforts, no one of these appropriation bills became law. Consequently, the health department's appropriation, as determined by this Legislature, remains, as stated above, the same as fixed by the 1932 Legislature during the peak of the depression. The only possible increase which can come to the health department is the proviso in the appropriation act giving the Governor authority to allot an additional \$25,000 for health work, in the event the revenues of the State will permit. For those who know, firsthand, Alabama's crying needs in the field of sanitation and public health and who are alive to the fact that its well-organized health department constitutes a most potent prying rod for lifting the masses of its people to a higher productive and economic level, this attitude of complacent satisfaction on the part of the Legislature towards its health department has been discouraging. The services to be rendered through the health department are so vital, so basic and so fundamental as to command serious consideration at the hands of the Legislature for their strengthening and expansion commensurate with this importance.

THE CIVIL SERVICE OR MERIT SYSTEM ACT

The action taken by the Legislature, when creating a civil service system for state employees, in which is included, also, the professional and technical personnel of the State Health Department, demonstrates anew the difficulty encountered by the lay mind of grasping the unique philosophy breathed into Alabama's health organization by the Legislature itself more than sixty years ago. By this act—unwittingly, no doubt, but nonetheless true—which entrusted an important activity of state government to the medical profession, the Legislature automatically removed its health department from the possible baneful and damaging influences of a political atmosphere. The administrative policies of the health department have ever rested upon the rendition of satisfactory service based solely upon qualification, merit and good conduct. In truth, the history of Alabama's health department throughout its entire career—now become an ingrained policy—has been one of service to our people and of non-political entanglements. These facts were

readily conceded by all and constituted the grounds for importuning the Legislature to exclude the health department from the workings of a civil service system; that, by such inclusion, political channels would likely be opened up, thus nullifying a far-seeing action which a former Legislature had taken. The surge for political reform, it seems, was so great in the minds of many that small time could be given to cogent reasoning or a critical analysis of individual claims. The attitude taken by the Legislature and by the press was that Alabama's health department was but one of the many activities of state government and consequently should neither ask for nor expect preferential treatment.

Consequently, the Act as finally passed by the Legislature includes all employees of the central State Health Department.

CHIROPRACTIC BILL

This bill, as introduced, sought to drastically modify the present statutes regulating practitioners of the healing art by setting up a separate licensing board for a particular group known as chiropractors. The writer has pointed out in previous issues of this Journal, and the profession is fully cognizant of the unwisdom of a multiplicity of boards and standards in dealing with matters of licensure. And yet, it is difficult to impress upon law-making bodies the inherent dangers of such legislation, in the face of high-powered, well paid lobbyists.

This bill, after hearings before the Public Health Committee of the House, received a majority vote in committee for indefinite postponement; an action which ordinarily spells finality. However, the proponents of the bill succeeded in having it brought up again in committee, at which time a bare majority vote was procured for reporting the bill out of committee without recommendation. Consequently, this bill is now on the House Calendar and the possibility exists of its receiving consideration on the floor of the House when the Legislature reconvenes for three days in June 1940. In short, this bill has not been finally disposed of by this Legislature and county medical societies should bear this fact in mind and see to it that, during next spring, suitable resolutions, opposing this bill, are drafted and transmitted to their legislators. If the doctors of this State but manifest their in-

terest and opposition, as they should, little difficulty should be encountered in check-mating this and other similar legislation detrimental to the public health as well as to decent standards.

OSTEOPATHIC BILL

A similar bill, sponsored by the already licensed members of the osteopathic profession of the State, not only sought to set up a separate licensing board for osteopaths but also sought to remove all restrictions of the present law in regard to the administering of drugs and the practice of major surgery. (Section 2837 of the Medical Practice Act.)

In the bill, osteopathy is defined as follows:

"Osteopathy is that branch of the healing art which puts chief emphasis upon mechanical order in the body as the main factor in health. It employs definite and purposeful manipulations to restore and maintain this order. It includes also the use of anesthetics, antidotes, anodynes and all methods of healing of proven value."

Section 4 of the bill enumerates the subjects upon which an applicant to practise osteopathy is to be examined. It is interesting to note that this list is, *verbatim*, exactly what is now required, by law, of regular medical practitioners, including major surgery and to which has been added "the practice of osteopathy."

Section 7, after providing for the registration of the certificate, states that "such certificate shall entitle the person to whom it is granted to practice osteopathy in any county in this State, in all its branches, as taught and practiced by the recognised associated colleges of osteopathy, with the right to use such drugs as are necessary in the practice of osteopathy, surgery, and obstetrics, including narcotics, antiseptics, anesthetics and biologicals."

There are now in Alabama five licensed osteopathic practitioners who have qualified under the existing law, showing that the present requirements constitute no insuperable barriers for one trained and desiring to practise the healing art in a particular way and in a limited field. Of course, the purpose of this legislation is clear: To procure full legal recognition and rights in the entire field of medicine and surgery for a particular group whose educational requirements and whose teaching institutions and clinical facilities are still substandard. Here again one sees the unwisdom and danger in

setting up a multiplicity of measuring sticks for those attempting to treat human ailments. This bill did not have a hearing before the committee to which it had been referred.

CHIROPODY ACT

In keeping with the views held and the position taken by the State Board of Medical Examiners, acting for the State, that multiple licensing boards for those attempting to treat diseases of human beings, whether of the body as a whole or within a circumscribed field, are inimical to the protection of the public health, a bill was prepared and sponsored by this Board so amending the present Medical Practice Act as to provide a legal status for qualified chiroprodists. In brief, this Act, which seems entirely acceptable to the qualified chiroprodists of the State, authorises the State Board of Medical Examiners, through rules and regulations promulgated by it, to take over the responsibility of licensure of the qualified members of this group.

This bill passed the Legislature with practically no opposition and will be put into operation as soon as the machinery can be perfected.

PRENUPTIAL EXAMINATION BILL

In the September 1939 issue of the Journal, under the Association Forum, there appeared an analysis of the Prenuptial Examination Bill, which, at that time, was receiving consideration by the Legislature. It was pointed out that the bill, after being defeated in the House by a narrow margin—44 to 38—had been re-introduced into the Senate. This was done because it was felt that at the time of its consideration by the House a full understanding of the content and purport of the bill was not had by the members of that body. In the Senate this bill received careful consideration and was finally passed by that body by the flattering majority of 25 to 3.

Upon arrival in the House, it received a favorable report by the Public Health Committee and was accorded a place on the House Calendar. However, due to the very congested state of this Calendar, this bill was not reached and, consequently, has been carried over to receive consideration when the Legislature reconvenes in June 1940.

The profession of the State, whose members have been deeply interested in this legislation, will be glad to learn that, with a fuller and clearer understanding of the bill, the attitude of the majority of the members of the House should be favourable to its passage when it comes before them in June. However, it is hoped that physicians, who can best appreciate the need for such legislation, will avail themselves of the opportunity of presenting to their legislators their interest and their personal views.

AMENDMENTS TO PRESENT RABIES ACT

After several futile attempts on the part of the health department to provide some sort of legal machinery for the better control of rabies—both human and canine—in this State, success crowned its efforts by the passage, in 1937, of an Act requiring the annual vaccination of dogs on a state-wide basis. It was appreciated, at the time of its enactment, that this Act was far from perfect, largely because of certain amending clauses inserted into it and resulting from compromises which had to be made. After two years' experience in its practical administration, certain changes in the present law seemed definitely to be indicated, with the thought in mind of strengthening and simplifying it at some points and of making it generally more practical and workable. Consequently, amendments to certain sections were submitted, some of which were accepted and some rejected by the Legislature. Of those accepted are the following:

(a) In Section 1 of the old law "inoculation" is defined as a "subcutaneous" injection of the vaccine. Considerable clinical experience in the vaccination of animals seems to point to the fact that the *intraperitoneal* administration of the vaccine is both more effective and equally as harmless. To permit of this technique being applied, the wording of this section was changed to read "subcutaneously or otherwise as approved by the State Health Officer and the State Veterinarian."

(b) An amendment to definitely fix the term of office of the rabies inspector for one year, with the proviso that said inspector may succeed himself, if in the opinion of the appointing board—the County Board of Health—such action seemed wise.

(c) An amendment to fix September 1st of each year as the date prior to which all

dogs are to be inoculated against rabies. On and after this date—September 1st—the penalty provisions of the Act are to become operative.

It may be said that, after some two years operation of this law throughout the State, sufficiently encouraging results have been attained to justify not only a continuation of the law but also a more rigid enforcement of certain of its provisions. This statement is based, in part, upon both the steadily diminishing number of animal heads submitted for examination and the number of human rabies treatments distributed.

TIME OF HOLDING EXAMINATIONS FOR LICENSURE

Section 2867 of the general laws of Alabama provided that examinations for licensure should be held at least twice annually by the State Board of Medical Examiners. In view of the fact that, in recent years, fewer and fewer physicians took the examinations (the majority now coming into the State by reciprocity) and because of the expense and time consumed in holding two annual examinations, the Board felt that the law should be so altered as to require but one examination annually, leaving to the Board's discretion whether additional ones should be held. Consequently, an amendment to this section was prepared, in consonance with these views, which was passed without opposition.

AMENDMENTS TO VENEREAL DISEASE LAWS

Certain sections of the present health laws relating to the control of the venereal diseases having become outmoded in the light of our more recent efforts at the control of these diseases prompted the health department to seek amendments to these sections. These amendments were prepared, and, upon being submitted to the Legislature, were favourably acted upon by that body and are now law. The sections amended were as follows:

- (a) Section 1104 (improvement in the reporting of cases of venereal diseases).
- (b) Section 1106 (strengthening of the requirements of persons infected with venereal disease to report for treatment).
- (c) Section 1107 (requiring persons who have been confined or imprisoned to be examined for venereal diseases and to provide for treatment, if necessary, after release).

(d) Section 1114 (strengthening of present law dealing with prostitution and authorising health officer to examine a person when there is good reason to believe such person to be infected with a venereal disease).

CERTAIN OTHER LEGISLATION INTRODUCED BUT NOT PASSED

VITAL STATISTICS

Effort was made to bring more up to date and to strengthen certain sections of the present laws having a bearing on the activities of the Bureau of Vital Statistics. Amendments looking to this end were submitted, received favourable consideration in committee and were placed upon the Calendar. Due to the large number of bills awaiting action on the last days of this session, these health bills, along with many others, had to be postponed until the June 1940 session, at which time it is hoped they will become law. These bills are as follows:

(a) To provide for the substitution of registration when the child is legitimated by intermarriage of parents.

(b) To amend Section 1075 of the Code of Alabama, relating to public health. (Wording of burial, removal or transit permit).

(c) To amend Section 1081 of the Code of Alabama, relating to public health, and amended by an Act of the Legislature, approved September 13, 1935. (Records and reports of births and deaths in institutions prescribed.)

(d) To amend Section 1085 of the Code of Alabama, relating to public health, as amended by an Act of the Legislature, approved September 13, 1935. (Distribution of blanks, examination of certificates, and the making of records by local registrars prescribed.)

(e) To amend Section 1069 of the Code of Alabama, relating to public health, as amended by an Act of the Legislature, approved September 13, 1935. (Permits for burial, removal or transportation of dead bodies prescribed.)

(f) To amend Section 1087 of the Code of Alabama, relating to public health. (Certified copy of record of births or deaths, fees to state registrar.)

APPROVAL OF HOSPITALS

Another bill of considerable importance to physicians, and whose present legislative status is that outlined above under Vital

Statistics is one seeking to amend and improve present Sections 1198 and 1199 of the Code, dealing with the approval of hospitals by county boards of health. The law as it now stands authorises these boards to pass upon only the *physical structure* of a hospital and to either grant or refuse a permit. The amendment goes further and includes the important provision that these boards shall also pass upon the *character, professional standing and training* of the personnel to be responsible for, or employed in, the operation of such hospital or institution. The Commissioner of Insurance is also much interested in this legislation, and it is hoped that through the combined efforts of the Insurance Commissioner and the State Health Officer this bill may become law in June 1940.

TO DEFINE DISEASE

While the word "disease" and the phrase "to treat disease" appear more than once in the Medical Practice Act, no definition of these terms is given. Upon the advice of attorneys who had had experience in the courts with prosecution of illegals, effort was made to write into the law the following definition:

"The words 'disease' or 'diseases,' wherever found in Chapters 52 and 207 of the Code of Alabama of 1923, shall mean any ache, pain, ailment, abnormality, derangement, blemish, defect, deformity, infirmity, disorder, or injury of the human body or mind, and pregnancy, and the effects of any of these."

In committee, although it was reported out, this legislation was opposed by the chiropractic group who were represented by counsel. When the bill appeared before the House, the sponsor of the bill, because of the opposition to it, moved indefinite postponement and consequently the bill failed of passage.

STABILISATION OF HEALTH APPROPRIATIONS IN COUNTIES

It was the feeling both of the administration and of the health department that the time had come for a more satisfactory stabilisation of appropriations to be made by the several counties for health work. Looking to this end, a bill was introduced seeking to fix a minimum sum to be allocated by counties for their health budgets. Considerable opposition to the measure arose from the local appropriating bodies within the

counties and it met defeat in the Public Health Committee of the Senate.

FINANCING RURAL SANITATION

There are already on the statute books provisions whereby municipalities may make certain sanitary improvements and assess the cost of same to the property owners. This proposed bill sought to give to county governments, where desired, somewhat similar rights in order that much needed rural sanitation programs might be more rapidly pushed forward. This bill likewise met defeat in the Public Health Committee of the Senate.

ANOTHER FORWARD STEP IN VENEREAL DISEASE CONTROL

By

W. H. Y. Smith, M. D., Director
Division of Venereal Disease Control

The Alabama State Health Department during the past few years has been on the offensive against syphilis and recently this offensive has broadened to include an attack against all the venereal diseases. Since it is known that the number of cases of venereal diseases in the lower economic group is much higher than that of any other group, a more concerted drive has been developed along this sector of the venereal disease front. Clinics have been organized in 64 of the 67 counties in order that free treatment can be given to the indigent and semi-indigent. However, the establishment of clinics does not necessarily mean that all infected persons will be treated, since attendance depends to a large degree on voluntary application for treatment and the resultant fermenting out of source and spread contacts. But education and the Wassermann drag-net will do much toward reaching many of the infected individuals. Even then, certain groups will offer a stumbling block to control procedures due to their lack of concern for their fellow man and indifference to education. However, even these groups can eventually be reached through legislative measures.

Individuals who have violated the law and become incarcerated in jail are required to be treated for venereal disease if they are infected. However, many federal law violators, when the offense is slight or in the opinion of the court another chance for the individual appears worth while, are put on

probation. Although a very detailed pre-sentence investigation is made by U. S. probation officers, yet no provision in the past was made to discover venereal disease in these probationers. At the present time in Alabama there are 2,239 probationers, parolees and individuals conditionally released from federal jails. Since venereal disease probably flourishes among these individuals and their families, it was decided, after a conference with the district probation officers and the State Health Department, to include in the pre-sentence investigation an examination for syphilis and gonorrhea.

All individuals who are put on probation, paroled or conditionally released by the U. S. district courts in Alabama will be given a blood test for syphilis and a smear will be made, if necessary, for gonorrhea. These tests will be made at the County Health Department or venereal disease clinic in the county in which the district court is held (form 1). Those individuals and all members of their families infected will be required to take treatment until the maximum benefit from treatment has been attained. If they are indigent, they will be treated at the nearest free clinic but if the individual can pay for treatment, he will be required to receive it from a private practitioner. Decision as to the indigence or non-indigence of the patient will be decided upon by the family physician after studying the patient's financial record. If he decides the patient is an indigent, then he will sign a reference slip for admission to the local venereal disease clinic (form 2). If an infected probationer or parolee fails to report for treatment, the private physician, for non-indigents, and the health officer, for indigents, are requested to report immediately (form 3) to the district probation officer. In this way continuity of treatment may be maintained. When the maximum benefit from treatment has been attained and the patient is no longer infectious, the district probation officer is notified (form 4) and the case is closed.

Here again another opportunity presents to the medical profession for active participation and cooperation in bringing under control one of the most devastating enemies of mankind.

For the information and guidance of the physicians of the State, copies of the blanks to be used are given below.

Form No. 1

Court Docket No. _____
File No. _____
County _____
UNITED STATES PROBATION AND PAROLE SYSTEM
FOR THE
DISTRICT OF ALABAMA

To: _____
Dr. _____
County Health Officer _____

Alabama

Name _____
Address _____
The above named individual has been directed by this Department to report to your office for a blood test for syphilis and smear for gonorrhea, if necessary, on this the _____ day of _____, 19 _____.

United States Probation Officer.

Form No. 2

To: _____
County Health Officer _____

Alabama

Date _____
Re: _____
Address _____
I have this date studied the financial reports and laboratory reports of the above named individual under supervision of United States Probation Officer _____ and it is my opinion he is without funds and is in need of treatment for syphilis [] gonorrhea [] at the Venereal Disease Clinic.

Physician

Form No. 3

File No. _____
County _____
To: _____
Chief U. S. Probation Officer _____

Alabama

Probationer _____
Address _____
The above named probationer under supervision of United States Probation Officer _____ failed to report for treatment on this the _____ day of _____, 19 _____.

County Health Officer

Form No. 4

File No. _____

County _____

To:

Chief U. S. Probation Officer

Alabama

Probationer _____

Address _____ has received

treatment for syphilis [] gonorrhea [] for _____
weeks and it is the opinion of the attending phy-
sician that this probationer has received the max-
imum benefit from treatment of his disease and

being no longer infectious is this the _____ day of

_____, 19 _____, released from fur-
ther treatment.

Physician _____

Committee Contributions

Prevention of Cancer

HOME FOR INDIGENT INCURABLE CANCER PATIENTS

The Lady of Perpetual Help Free Cancer Home, of Atlanta, Georgia, was opened this year to care for the incurable cancer patients among the indigent group. The Catholic sisters have established this hospital. The conditions for admission are the presentation of (1) a certificate showing that the case is incurable and (2) a certificate showing that the patient is indigent.

The hospital will provide a home for the remainder of the life of the patient with whatever medical care is needed. No money is advanced for transportation or treatment. There is no geographic or religious limitation for admission. Applications should be sent to the Lady of Perpetual Help Free Cancer Home, Washington Street, Atlanta, Georgia, accompanied by certificates showing the case is incurable and indigent. Patients will be admitted as vacancies occur.

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF ADMINISTRATION

J. N. Baker, M. D.
State Health Officer in Charge

SCHOOL HEALTH WORK SHELBY COUNTY 1938-1939

Submitted by
E. F. Sloan, M. D.
County Health Officer

We submit herewith a report of physical examinations and immunizations of school children in Shelby County during the school year 1938-1939. This report has been sent to all members of the Board of Education, the Superintendent of Education and the Elementary School Supervisor.

Number of Children Examined	3,020
Abnormal Conditions Found:	
Skin Infections	40
Defective Teeth	682
Defective Tonsils and Adenoids	529
Enlarged Lymphatic Glands	481
Defective Vision	165
Eyes Crossed or Inflamed	37

Vision Corrected by Glasses	81
Defective Hearing	90
Nutritional Defects	643
Heart Abnormality	13
Lung Abnormality	3
Other Abnormality, as Cleft Palate, Chorea, Paralysis, etc.	15
Immunizations:	
Number Immunized Against Diphtheria	275
Number Immunized Against Smallpox	608
Number Immunized Against Typhoid	470
Number Schick Tests	969
Number Nose and Throat Cultures	914
Number Tuberculin Skin Tests	134
Number X-Ray Examinations of Chest	500

COMMENTS

1. Of the 969 Schick tests done to determine immunity to diphtheria only 71½% were positive, which indicates that over 90% of the school children tested are immune to diphtheria at the present time.

Of the 914 nose and throat cultures made to determine the number of diphtheria carriers among school children, it was found that approximately 6% were positive. This

emphasizes the great necessity of immunizing as many children as possible against diphtheria.

2. In the "Summer Round-Up" examinations, 208 preschool children were examined for defects and a large number of these immunized. We had only 58 preschool examinations the preceding year.

On re-examination of children examined last year, a large number of corrections were noted, as fitting of eyeglasses; removal of defective tonsils and adenoids, repair of defective teeth, etc. One child has had a chronic wry-neck relieved and one has had a cyst removed from her eye at the Crippled Children's Clinic. One has had a large cyst removed from his cheek by his family physician. Two children with cleft palate have been referred to the Crippled Children's Clinic for treatment. One child with tuberculosis was hospitalized, without any expense to his family, and arrangements have been made to hospitalize another who was found, upon examination at the Chest Clinic, to have tuberculosis.

4. It is hoped that during the coming school year we will be able, with the cooperation of some of the service clubs, to organize one or more tonsil clinics. This would enable a large number of children to receive needed treatment whose families are unable to pay for same.

A COMMUNICATION

REGARDING NEW YORK'S PREMARITAL EXAMINATION LAW

The Commissioner of Health of the State of New York has requested that the following communication regarding the premarital examination law of his state be called to the attention of the profession in Alabama:

The New York State Legislature in 1938 passed a law requiring a physical examination including a standard serologic test for syphilis on all applicants for marriage licenses within the state.

Several instances have been called to my attention in which residents of other states have had difficulties in securing marriage licenses in New York State because of misinterpretations of the law by themselves or their examining physicians. In order that such inconveniences may be avoided, I should greatly appreciate it if you would, through your *Journal*, inform the medical profession of your state of the provisions of the New York law.

That part of the act as amended and effective July 1, 1939 referable to these examinations reads as follows:

"Physician's examination and serologic test of applicant for marriage license.

1. Except as herein otherwise provided, no application for a marriage license shall be accepted by the town or city clerk unless accompanied by or unless there shall have been filed with him a statement or statements signed by a duly licensed physician or by a commissioned medical officer of the United States army, navy or public health service that each applicant has been given such examination, including a standard serologic test, as may be necessary for the discovery of syphilis, made on a day specified in the statement, which shall not be more than the thirtieth day prior to that on which the license is applied for, and that in the opinion of the physician the person therein named is not infected with syphilis, or if so infected is not in a stage of that disease whereby it may become communicable."

The law further states that "a standard serologic test shall be a laboratory test for syphilis approved by the state commissioner of health and shall be performed by the state department of health, or in the city of New York by the department of health of such city, or at a laboratory approved for this purpose by the state department of health, or in the city of New York, by the department of health of such city."

I offer the following comments relative to its interpretation:

1. A duly licensed physician means any physician duly licensed to practice medicine in the state in which he resides or in which he maintains his office.

2. The date of examination is interpreted to mean the date on which the specimen of blood is taken.

3. The state commissioner of health and the state department of health referred to mean commissioner of health of the state of New York and the New York State Department of Health.

4. Laboratory tests made as a part of premarital examinations for persons applying for marriage licenses in New York state, outside of New York City, as well as the laboratories in which these tests are performed, must be approved by the New York State Commissioner of Health. For administrative reasons laboratories within New York State only have been approved for tests on applicants for licenses in the state exclusive of New York City.

5. The Commissioner of Health of the city of New York has approved certain out-of-state laboratories for the performance of serologic tests on persons applying for marriage licenses in New York City. Requests for information concerning laboratories approved by the New York City Department of Health should be addressed to that department at Worth and Centre Streets, New York City.

Outline of procedures for examination of out-of-state applicants for marriage licenses in New York State exclusive of New York City.

1. Any physician duly licensed to practice medicine in the state in which he resides or in which he maintains his office may perform the necessary physical examination.

2. The specimen of blood must be sent to an approved laboratory in New York State. It is sug-

gested that specimens be sent to the Division of Laboratories and Research, New York State Department of Health, New Scotland Avenue, Albany, N. Y., where examinations will be made free of charge.

3. The specimen should be labeled "for premarital examination."

4. The use of air mail is recommended when the specimen must be sent a great distance.

5. Upon completion of the test the laboratory will send the physician, in addition to the usual laboratory report, a certificate to the effect that the serologic test was performed as a part of a premarital examination.

6. If, in the opinion of the examining physician the applicant is free from syphilis or does not have the disease in a stage which may become communicable, he should complete the certificate as indicated thereon.

7. The certificate is given to the applicant who will submit it to the clerk when the marriage license is applied for.

If these procedures are followed, there should be no difficulty in obtaining the license.

For further information relative to the marriage of persons in New York State, exclusive of New York City, communications should be addressed to the Division of Syphilis Control, New York State Department of Health, Albany, N. Y.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

AMENDMENTS TO VENEREAL DISEASE LAWS

The Legislature of 1939 amended four of the existing venereal disease laws. These changes were necessary in order that the continued drive against venereal diseases be maintained.

Section 1106 was amended to read as follows:

Section 1106. Persons Required to be Treated.—The County Health Officer shall require all persons infected with a venereal disease to report for treatment to a reputable physician and continue treatment until such disease, in the judgment of the attending physician, is no longer communicable or a source of danger to public health. When such infected persons are unable to pay the attending physician's fees and in his judgment are indigent, they shall submit to treatment at public expense until discharged by the physician in charge of the clinic. Whenever in the judgment of the County Health Officer such a course is necessary to protect the public health, persons infected with venereal disease shall be isolated or quarantined. But whenever a person or persons infected with venereal disease shall refuse to take and continue treatment, as provided in this section, such person or persons may be committed to the county or city jail on order of the County Health Officer or physician in charge of a venereal disease clinic, and kept there for treatment until no longer a source of danger to the public

health. Cost of feeding and keeping such person or persons shall be at the expense of the city in the event such person or persons reside in an incorporated municipality; otherwise, the same shall be at the expense of the county.

COMMENT

Previously this law allowed for the incarceration of prostitutes and those associated with them. The amended section, approved September 12, 1939, changes this so that all the individuals infected with a venereal disease must take treatment and those who refuse may be put in jail. It is not expected that there will be a wholesale incarceration of recalcitrants but that persuasion to take treatment will still be the keynote, with incarceration of those individuals who prove themselves to be definitely irresponsible in regard to the spread of the infection.

The amendment to Section 1104 reads as follows:

Section 1104. Physicians and Others Required to Report Cases of Venereal Diseases to the County Health Officer.—Any physician who makes a diagnosis or treats a case of syphilis, gonorrhea, chancroid, lymphogranuloma inguinale, or granuloma venereum, and the superintendent or manager of a hospital or dispensary or penal or other institution in which there is a case of venereal disease, shall report such a case immediately in writing to the County Health Officer, stating the patient's name, or initials, the age, color, sex, marital status, address, the stage of the disease and occupation of such diseased person, the date, as near as it can be arrived at, of the onset of the disease and the probable source of infection, and the report shall be enclosed in a sealed envelope and sent to the County Health Officer.

COMMENT

The important change in this law is in the method of reporting. Formerly physicians reported cases of venereal disease by number. By this method it was impossible to check the files for duplicates since one patient might be reported by a different number by several doctors. The amended section, approved August 16, 1939, states that cases are to be reported by name or initials, age, sex, color, etc. In this way each patient's report can be identified in the files.

Section 1107 was amended as follows:

Section 1107. Examination and Treatment of Prisoners.—All persons who have been confined or imprisoned in any state, county or city prison shall be examined for venereal disease, and, if found infected, shall be provided with proper treatment. The authorities of any state, county or city prison shall make available suitable facilities for treatment purposes. In the case of a

discharged prisoner who is still in an infectious stage or who has not received adequate treatment, a written notice shall be submitted to the health officer of the county to which the prisoner is returned, setting forth the necessary facts and a record of the treatment administered while in custody.

COMMENT

This law was changed to clarify a former verbose law and to insure the treatment of infected persons. The section as amended was approved by the Governor on August 16, 1939.

Section 1114 was amended as follows:

Section 1114. Suppression of Prostitution Declared a Public Health Measure, and Prostitution Declared to be Presumptive Evidence of Venereal Disease Infection.—Prostitution is hereby declared to be a prolific source of syphilis, gonorrhea, chancroid, lymphogranuloma inguinale and granuloma venereum, and the suppression of prostitution is declared to be a public health measure. All health officers shall cooperate with the proper officials whose duty it is to enforce laws directed against prostitution, and otherwise to use every proper means for the suppression of prostitution. It is further declared that prostitution is presumptive evidence of venereal disease infection; and, whenever or wherever apprehended, prostitutes and other persons whom the County Health Officer has probable cause to believe infected with a venereal disease shall be examined for said infection by the health officer or his assistant.

COMMENT

The deletion of a few objectionable phrases in the former law constitutes this amendment, the section as amended having been approved by the Governor on August 16, 1939.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

ORAL HYGIENE PROGRAM

The dental health education program of the State Department of Health is directed by the associate in charge of the Division of Oral Hygiene. This division is in the Bureau of Hygiene and Nursing. The program is strictly educational in nature. No corrective work is done. All corrections are made by the local dentists.

One aim of the program is to create a desire in the mind of the child to keep a clean mouth, and to seek the services of a dentist for corrective measures before the conditions develop to the extent that the general health of the individual may become impaired.

All local programs are planned and executed with each county being an exclusive field for presentation. Oral hygiene programs are conducted in the counties in the order that requests are made. Sincere cooperation is desired of the County Health Officer, County Superintendent of Education, local dentists, school principals, and every school teacher.

In planning the dental program for a county, all local dentists, the County Health Officer, and County Superintendent of Education are contacted. The activities are explained and each person is advised as to how he is expected to participate in the program.

Local dentists, who take part in the dental program, give a half day (usually the mornings) to the dental examinations in the elementary schools. Parents are notified of the findings made at these examinations.

The county health personnel cooperate with the dentists of the county in promoting the dental health program throughout the school year, and in urging the parents of as many children as possible to get their corrective work completed by local dentists.

Every grammar school in the county is visited. Every class receives approximately fifteen minutes of instruction concerning oral hygiene. Motion picture films are sometimes shown. The teacher is furnished material with which to follow up the talks if she so desires.

The aims of the school dental health program are:

1. To help children develop favorable attitudes toward and pride in clean, strong, healthy teeth and mouths through the daily practice of habits of cleanliness.

2. To help children to understand and to try to secure an adequate diet for maintaining good health, and thus for developing strong bones and teeth.

3. To help each child to know his own mouth condition and needs, and to encourage him to participate in plans for securing the necessary dental care.

4. To help children to have a friendly feeling toward the dentist because of a knowledge and appreciation of the services he renders.

Programs are conducted in as many colleges as possible to reach during the summer months. Lectures are given by the associate in charge of the Division of Oral Hygiene to groups of fifty to one hundred

students until all students in the respective colleges have attended at least one lecture.

The associate in charge of the Division cooperates with local dentists in every possible way; also, he addresses, upon request, dental societies, medical societies, civic clubs, parent-teacher association groups and other groups interested in oral hygiene.

Newspaper articles, press releases and radio talks are utilized as a means of presenting dental health information to the public.

Since there are sixty-seven counties in the State and a limited personnel, it is impossible for the associate in charge of the Division of Oral Hygiene to conduct oral hygiene programs in all counties each year. However, upon entering a county to conduct the dental program, each school is visited and the mouth of every child is examined.

Good teeth aid mastication

Good mastication aids digestion

Good digestion aids nutrition

Good nutrition aids health

Good health aids happiness.

B. P. E.

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E., Director

MINOR IMPOUNDED WATER PROJECTS

Artificially-created bodies of water or those which have been made by man's effort were recognized about twenty-five years ago as having a distinct bearing on the malaria problem of Alabama. They are in general very suitable for the production of *Anopheles quadrimaculatus*, the malaria-transmitting mosquito of the Southeastern United States.

Following investigational studies, "Regulations Governing the Impounding of Waters" were formulated and adopted by the State Board of Health in 1922. These regulations have had the full effect of law since February 28, 1927. The regulations do not prohibit the creation of artificial bodies of water but require that the areas be properly prepared and maintained whereby *Anopheles quadrimaculatus* mosquito breeding will not occur. The responsibility for control is the owner's. However, the State Department of Health serves in an advisory capacity in reference to control procedures.

The value of the regulations is evident as there has been no general increase in malaria in areas adjacent to the many lakes created in Alabama during the past fifteen

years, whereas, in contrast, practically every one living within one mile of the first large lake created on the Coosa River and near the navigation lake on the Warrior River suffered with malaria following the creation of these lakes.

The artificial impoundages are grouped arbitrarily into two classifications. Lakes having a surface area greater than 100 acres are classified as major impoundages. Smaller lakes, ranging between 1/10 and 100 acres are classified as minor impoundages. The classification has no definite significance relative to the State's impounded water regulations nor to the basic principles of mosquito control.

A summary of the statistics of the minor impoundages, which the department has record of, created since 1927 would be in order to show the current trend of constructing small ponds. These minor impoundages are used principally for fish culture or recreational purposes. For the period 1927 to 1938 inclusive this department has records of 389 such ponds, with an area of 2,320 acres and a population of 69,280 residing within the one-mile zone, that are under various stages of development. Of this number there are 246 ponds with an area of 1802 acres and a population of 52,560 residing within the one-mile zone that are known to be impounded.

During 1938, at the request of persons desiring to construct impounded areas, eighty-six copies of the "Regulations Governing the Impounding of Waters," form letters explaining the regulations, and application blanks to be used in obtaining a preliminary permit were sent to the prospective owners. Of this number sent, forty-nine applications for a preliminary permit to impound the area were received.

From January 1, 1939 to September 1, 1939, a total of seventy copies of the "Regulations Governing the Impounding of Waters," form letters explaining the regulations, and application blanks to be used in obtaining a preliminary permit have been sent to the owners of proposed impounded water projects. Of this number fifty-six applications for a preliminary permit have been received, the proposed impounded areas to cover 192 acres affecting 4,963 people residing within the one-mile zone.

The reason for this increase in the number of minor impoundages is apparently due to a greater interest by the public in the con-

struction of ponds for recreational purposes, fish culture, and watering stock.

The "Regulations Governing the Impounding of Waters," generally speaking, require that the area to be inundated and the shore line fifteen feet landward of the normal summer shore line be cleared of all the original vegetation, that a bottom drain be installed at the low point of the dam so that the water level can be lowered to facilitate the removal of invading vegetation, and that the owner agree to control the production of the malaria-transmitting mosquitoes. A bulletin entitled "Management of Farm Fish Ponds" was released by the Agricultural Experiment Station of the Alabama Polytechnic Institute in July, 1938. The bulletin contains the findings of experimental work on fish culture by Mr. H. S. Swingle, Department of Zoology-Entomology, and Mr. E. V. Smith, Department of Botany and Plant Pathology. Their work shows that the basic principles of fish culture and mosquito control by biologic methods are, for all practical purposes, the same.

Basically there are three cardinal principles of mosquito control; namely, (a) preparation of the area to be inundated by the removal of the original vegetation and maintenance of a clean shore line and water surface, (b) installation of a bottom drain so that the water level can be lowered to facilitate the removal of invading vegetation, and (c) stocking the pond with top minnows (*Gambusia*). Should the above biologic methods fail to give satisfactory control of *Anopheles quadrimaculatus* mosquitoes, then supplementary control measures by (1) the application of larvicides or (2) fluctuation of the water level one foot or more, depending on the topography of the area, must be employed at weekly intervals until satisfactory mosquito control is obtained.

Below are quotations from the "Management of Farm Fish Ponds" bulletin relative to the above mosquito control principles.

(a) Preparation of the area to be flooded:

"Weed Control—As was mentioned above, the majority of food in the pond is furnished by microscopic plants which float in the water. It has been found possible to raise as high as 580 pounds of fish per acre in ponds which do not contain any of the higher water plants such as water mosses, water lilies, and pond weeds. These larger plants are of very little value in ponds and

most of them are detrimental. In new ponds they should be pulled out whenever they appear. Most of them are easy to control if not allowed to get thoroughly established. After they are once established it is practically impossible to get rid of them without draining the pond and allowing the bottom to dry out for several weeks or longer."

(b) Bottom drain:

"In older ponds poor fishing is not due to lack of sufficient brood stock but usually to the presence of considerable numbers of large fish which are too wary to bite and which eat up most of the small fish produced in the pond. When this condition occurs good fishing can best be regained by draining the pond, removing all the fish and returning just the right numbers of small fish after refilling the pond. The large fish should not be returned to the water."

(c) *Gambusia*:

"In addition to the above fish every pond should be stocked with *Gambusia* minnows at the rate of at least 100 per acre. These aid greatly in controlling mosquitoes and are excellent food for bass and crappie. They can usually best be secured from neighboring ponds or lily pools."

The work on fish culture at Auburn has passed the experimental state and definite recommendations for obtaining maximum fish production per acre of water surface are given. This work shows that maximum fish production can be obtained in ponds that are constructed and maintained in accordance with the State Health Department's regulations. In the past many pond owners felt that if mosquito control was obtained it would be at the sacrifice of fish production. This common fallacy has been proved untrue by the experiments at Auburn that biologic methods directed toward mosquito control do not conflict with those directed toward fish production but supplement each other.

J. C. C.

"Health education is, at best, only partially successful unless the end result of the health program is a satisfactory emotional attitude of the individual toward his limitations as well as toward the potential abilities placed upon him by heredity and environment. This may be termed mental hygiene if you wish. The school should recognize that there is a great problem in an individual's adjustment to an unpredictable social environment. School people are too prone to think that wonders can be accomplished in the 6 hours of the school day. I am not so optimistic. What happens during the other 18 hours of the day may enhance or undo the work of the school. This depends upon the degree of functional education the school has been able to accomplish not only with the child but with the adults who manage the child's world."—Cromwell, *Am. J. Pub. Health*, Sept. '39.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN
ALABAMA
1939

	July	August	Estimated Expectancy August
Typhoid	56	69	134
Typhus	70	87	38
Malaria	1039	1047	765
Smallpox	0	0	1
Measles	138	29	33
Scarlet fever	54	76	45
Whooping cough	231	130	80
Diphtheria	41	70	104
Influenza	28	61	22
Mumps	76	24	28
Poliomyelitis	7	4	8
Encephalitis	3	2	2
Chickenpox	25	5	6
Tetanus	3	5	6
Tuberculosis	320	214	285
Pellagra	31	29	37
Meningitis	6	5	4
Pneumonia	79	66	54
Syphilis	1389	1308	226
Chancroid	2	11	7
Gonorrhea	310	346	172
Ophthalmia neonatorum	2	1	1
Trachoma	0	0	0
Tularemia	1	1	0
Undulant fever	10	9	5
Dengue	0	0	0
Amebic dysentery	2	0	0
Cancer	49	163	0
Rabies—Human cases	0	0	0
Positive animal heads	15	15	—

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years. With the venereal diseases, clinic cases were not included prior to 1936.

Medical News

(Secretaries of county medical societies and other physicians will confer a favor by sending for this section of the Journal items of news relating to society activities.)

The fall meeting of the Gulf Coast Clinical Society will be held in Mobile on Thursday and Friday, October 26 and 27, according to notice released by its Secretary, Dr. C. C. Rouse.

★ ★ ★

Postgraduate seminar of the Jefferson County Medical Society, September 8 and 9, was addressed by Dr. Angus McBryde, Duke University, Durham, N. C.; Dr. Benjamin S. Barringer, New York; Dr. William F. Reinhoff, Jr., Johns Hopkins University; Dr. Elmer L. Sevringhaus, University of Wisconsin Medical School, Madison; Dr. Hobart A. Reimann, Jefferson Medical College, Philadelphia; and Dr. Eugene F. Traub, New York City.

★ ★ ★

Annual meeting of the Alabama Pediatric Society was held in Birmingham, September 7th, under the presidency of Dr. Stewart H. Welch. A feature of the meeting were panel

discussions on (1) sulfanilamide, neoprontosil and sulfapyridine and (2) nutrition in infants and children. Dr. Angus McBryde, Assistant Professor of Pediatrics at Duke University, addressed the group.

★ ★ ★

The Workmen's Compensation Unit of the Department of Industrial Relations, Montgomery, calls attention to the fact there is considerable delay on the part of physicians and surgeons treating workmen's compensation cases in submitting their bills to the insurance companies or employers. This results in some inconvenience to the Unit regarding statistical compilation of medical costs. Physicians and surgeons are requested therefore to submit their bills promptly in all instances.

★ ★ ★

Fall meeting of the Northwestern Division of the Association, Dr. Merle Smith, Vice-President, was held at Tusculumbia, September 14. Essayists included Drs. Chalmers Moore, Gilbert Douglas and R. R. Calloway, Birmingham; Dr. T. J. Payne, Jr., Jasper; and Dr. M. C. Hollis, Winfield.

★ ★ ★

Annual meeting of the Alabama State Association of Railroad and Industrial Surgeons convened in Birmingham September 12 under the presidency of Dr. W. W. Harper of Selma. Those contributing to the program were Dr. J. R. Garner, Atlanta; Dr. Duncan Eve, Nashville; Drs. C. N. Carraway, Earle Drennen and J. A. Meadows, Birmingham; Dr. J. O. Morgan, Gadsden; Dr. R. S. Hill, Montgomery; and Dr. R. W. Waldrop, Bessemer.

★ ★ ★

The 25th annual meeting of the Radiological Society of North America will be held at the Atlanta Biltmore Hotel, in Atlanta, Georgia, beginning December 10th and concluding on December 15th.

This is the first time a national society of this size has held its annual meeting in the Southeast. All members of The Medical Association of the State of Alabama are invited to attend this meeting as guests, there being no registration fee required. The meeting will consist of papers covering diagnosis and roentgenology, roentgen and radium therapy. All men in the State who are interested in these subjects will find the meeting well worth attending.

Commercial exhibits will cover the very latest devices and instruments manufactured by the large companies in this field.

★ ★ ★

The forty-fourth annual meeting of the American Academy of Ophthalmology and Otolaryngology will be held in Chicago October 8-13 at the Palmer House. The Academy will again present its elaborate courses of instruction with more than 100 specialists as teachers; four afternoon programs of motion pictures and a scientific exhibit in addition to its formal scientific program.

There will be one joint session at which Dr. George M. Coates, Philadelphia, will deliver his presidential address and Dr. Burt R. Shurly, Detroit, will be introduced as the Academy's guest of honor for the year and will deliver an address.

At this session a symposium on essential hypertension will be presented by Drs. Albert C. Furstenberg, Ann Arbor, Mich., speaking from the standpoint of the otolaryngologist; Henry P. Wagener, Rochester, Minn., the ophthalmologist, and Roy W. Scott, Cleveland, the internist.

Two foreign guests will address the section meetings, which will be held on alternate afternoons. These guests are Prof. Joseph Igersheimer, Istanbul, Turkey, who will discuss "The Optic Nerve and Diseases of Hypertension," and Arthur DeSa, Pernambuco, Brazil, who is to speak on "Ethmoiditis."

★ ★ ★

The American Board of Obstetrics and Gynecology announces that the next written examination and review of case histories (Part I) for Group B candidates will be held in various cities of the United States and Canada on Saturday, January 6, 1940, at 2:00 P. M. The Board states that it will hold only one Group B, Part I, examination this year prior to the final general examination (Part II), instead of two as in former years. Candidates who successfully complete the Part I examination proceed automatically to the Part II examination held in June 1940.

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted by the entire Board, meeting in Atlantic City, N. J., on June 8, 9, 10, and 11, 1940, immediately prior to the annual meeting of the American Medical Association in New York City.

Book Abstracts and Reviews

The Art of Anesthesia. By Paluel J. Flagg, M. D., Visiting Anesthetist to Manhattan Eye and Ear Hospital; Consulting Anesthetist to the Woman's Hospital, Sea View Hospital, Jamaica Hospital, Mount Vernon Hospital, Flushing Hospital, Mary Immaculate Hospital, St. Mary's Hospital, Far Rockaway, N. Y.; Nassau Hospital, L. I.; Director of Pneumatology, World's Fair, New York City, and Chairman on Asphyxia of the American Medical Association. Sixth edition, revised. Cloth. Pp. 491, with 161 illustrations. Price, \$6.00. Philadelphia, London and Montreal: J. B. Lippincott, 1939.

Flagg's *Art of Anesthesia*, now in its sixth edition, offers the reader an excellent opportunity of acquiring a thorough understanding of the subject of anesthesia. The new edition contains much new material. The chapter on basal anesthesia has been enlarged to include the newer information on the barbiturates, avertin and paraldehyde. The use of carbon dioxide and helium is discussed. There is a new chapter on endotracheal anesthesia, a longer description of nitrous oxide anesthesia, and a chapter on anesthesia in dental surgery. A brief chapter on "The Point of View of the Patient" gives the author's philosophy as to how the patient should be treated. Lest familiarity breed contempt, the anesthetist would do well to read this chapter.

The type is large, the paper of good quality, the illustrations excellent and the author's style smooth. Though some may note a tendency to repetition, he must remember that we learn best by reading the same thing over and over again.

H. J. C.

Your Health Dramatized: Selected Radio Scripts. By W. W. Bauer, B. S., M. D., Director, Bureau of Health Education, American Medical Association, and Leslie Edgley, of the National Broadcasting Company. Cloth. Pp. 528. Price, \$2.25. New York: E. P. Dutton and Company, Inc., 1939.

Some eight years ago 100-watt Radio Station WRGN, at Racine, Wisconsin, broadcast what is believed to have been the first series of non-commercial dramatized radio programs ever to go on the air. The series consisted of 115 different broadcasts of 15 minutes each, and these were heard three times a week from April 1 to December 31.

Since that time numerous other local health programs have been broadcast, reflecting the growing interest in this means of reaching the radio-listening public with information having to do with matters of personal and public health, and in 1935 the first network sustaining (non-commercial) dramatized radio health program was launched upon the ether waves by the National Broadcasting Company in cooperation with the American Medical Association. Thirty-one programs, each half an hour in length, were broadcast, and the public response has been characterized as "instant and enthusiastic." The second series of 36 programs was broadcast during the 1936-37 broadcasting season and the response is said to have been even more enthusiastic. The third series, arranged on a somewhat different plan, occupied an important "spot" during the 1937-38 season. This series differed from its predecessors mainly in that it aimed at supplementing, rather than supplanting, health teaching programs arranged by the schools them-

selves. The success of these broadcasts and their value as a contribution to health education brought a first award in the health classification from the Institute for Radio in Education at the Institute's 1938 meeting at Ohio State University.

Because of the belief that the scripts used in these broadcasts had by no means realized their full potentialities when they were broadcast, and also because of the interest shown in them as health education material by educators and others, it was decided to make them available in book form for such use as it might be desired to make of them. Hence the publication of the present volume.

The introduction suggests five methods of utilizing this material for local programs: (1) actual broadcasts by means of public address systems; (2) simulated broadcasts (reenactments of actual broadcasts staged as stunt programs without benefit of microphones or loud speakers); (3) stage plays; (4) classroom plays, and (5) reading exercises. Suggestions are offered regarding each of these uses.

A rapid glance at the table of contents shows the wide variety of health education material that has been made available in this average-size volume. Among the 32 broadcast titles one finds "Growing for Strength and Beauty," "Seeing and Hearing Well," "Playing for Fun," "Tuberculosis—Foe of Youth," "Healthy Hearts," "Overcoming Diabetes," "Catching Diseases from Animals," "Healthier Babies," "Hospitals Aid Health," etc.

Here is a one-volume health library prepared for the school educator rather than the average person but containing a wealth of information for anyone who will take the time to read it. Moved to do so by a sense of duty to his or her physical well-being, such a person is almost sure to find that the performance of a duty has become a genuine pleasure.

J. M. G.

The Patient as a Person. A Study of the Social Aspects of Illness. By G. Canby Robinson, M. D., LL. D., Sc. D., Lecturer in Medicine, Johns Hopkins University. Cloth. Pp. 423. Price, \$3.00 net. New York: The Commonwealth Fund, 1939.

Every general practitioner realizes the extent to which disease is influenced by various psychologic and sociologic factors in the patient's life. Perhaps this knowledge is just beginning to attract the attention of those who work in large hospitals and dispensaries. If so, it might be wise for these instructors of medicine to read this book, or preferably try a year at private practice. At any rate, the reviewer finds the material dull and lacking in originality, the conclusions too obvious to be new to any but the youngest students of medicine, and the book as a whole neither interesting nor informative. One would expect more from any one connected with Johns Hopkins. Perhaps social service workers will be able to gain some facts of value from the case reports but the physicians will not be astonished by the statement that, if our patients were happily married, lived in pleasant surroundings and had adequate incomes, their diseases would be easier to cure. Perhaps, Doctor Robinson might be interested in learning that happiness, idleness and wealth might complicate treatment by the addi-

tion of a neurotic element quite difficult to fathom and control. The reviewer warns you—the best part of the book is its title.

B.

Baptism of the Infant and the Fetus: An outline for the Use of Doctors and Nurses. By the Reverend J. R. Bowen, Chaplain, St. Joseph Mercy Hospital, Dubuque, Iowa. Paper. Pp. 12. Price, 25c. Dubuque: M. J. Knippel Company, 1935.

This outline describes briefly the methods of baptizing Catholic infants before and after delivery. The baptismal procedures to be employed, when there is a premature fetus, a difficult delivery or a cesarean or a monster are given in sufficient detail to enable the physician or nurse to administer baptism in the manner acceptable to the Catholic Church. The difference between baptism and conditional baptism is clearly defined. Conditions under which postmortem cesarean sections are acceptable to the church are outlined. The conditions outlined need prove no burden to any conscientious physician or nurse of any creed who may have occasion to administer baptism to newborn infants. The pamphlet, published under official Catholic auspices, should be of value to all physicians and nurses who are working among patients of the Catholic faith.

E. F. D.

Medicolegal Phases of Occupational Diseases. By C. O. Sappington, A. B., M. D., Dr. P. H. Consultant, Occupational Diseases and Industrial Hygiene. Formerly Director of Industrial Health, National Safety Council; Formerly Special Lecturer on Industrial Hygiene and Occupational Diseases, University of California, Stanford Medical School, University of Michigan, University of Illinois Medical School, and Rush Medical School. Cloth. Pp. 400. Price, \$2.75. Chicago: Industrial Health Book Company, 1939.

In one hundred sixty-one pages the author has established a cause-and-effect relationship between employment, disease and disability that is sufficient to discourage any misuse of information resulting from a study of clinical manifestations, laboratory findings and control measures in so far as they affect medicolegal problems in occupational disease. Without going into technical detail, in the remaining pages of the book, he has made evident the complicated ramifications of those problems that are related to occupational disease legislation, decisions of damage suits, commission hearings and insurance coverage that the average physician, plant manager or engineer may become involved in.

The monograph is a practical, nontechnical, comprehensive outline and should serve well the purpose for which it was written.

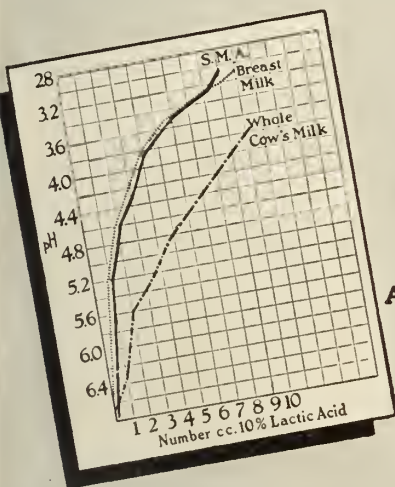
The usefulness of the book is increased by a general index, an author index, an index of case decisions and twenty-nine tables. The charts or tables summarize such things as the potential industrial exposures, and the allowable concentrations of harmful dusts, fumes, gases and vapors, which, together with a digest of workmen's compensation laws and a summary of the experience of many states, emphasize the cause-and-effect relationship and encourage a rational approach toward successful termination of the controversial aspects of medicolegal questions concerning occupational diseases.

J. R. C.

Why

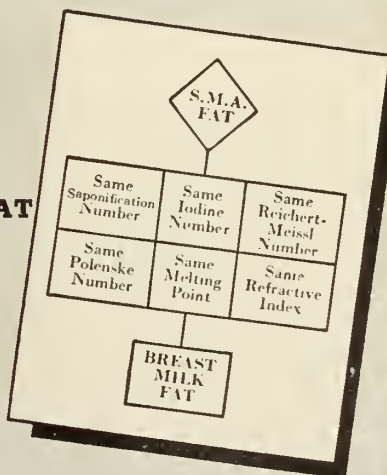
S.M.A. FED INFANTS SHOW EXCELLENT NUTRITIONAL RESULTS

NOT ONLY IS THE ANALYSIS LIKE BREAST MILK



AND THE BUFFER LIKE BREAST MILK

BUT FAT OF S.M.A. IS LIKE BREAST MILK FAT



In Addition S.M.A. is an antirachitic and antispasmodic food—has a Vitamin A, B, and D content in each feeding that is constant every month of the year. It is usually unnecessary to feed any vitamin supplements other than orange juice.



S.M.A. is a food for infants—derived from tuberculin tested cows' milk, the fat of which is replaced by animal and vegetable fats including biologically tested cod liver oil, with the addition of milk sugar and potassium chloride, altogether

forming an antirachitic food. When diluted according to directions, it is ESSENTIALLY SIMILAR TO HUMAN MILK in percentages of protein, fat, carbohydrate and ash, in chemical constants of the fat and in physical properties.

SAMPLES FREE TO PHYSICIANS
(Please use Professional Stationery)

S.M.A. CORPORATION • 8100 McCORMICK BOULEVARD • CHICAGO, ILLINOIS

Miscellany

JOURNAL SAYS IDENTICAL TWINS ARE MAINLY CHANCE PHENOMENON

"Single ovum twinning appears to be mainly a chance phenomenon," *The Journal of the American Medical Association* for Sept. 16 states in an editorial on 'Twin Pregnancy.' "Double ovum twinning apparently is influenced by heredity, age and parity.

"In the first forty years of the obstetric department of Johns Hopkins Hospital, 521 cases of twinning occurred in the combined hospital and home delivery services, or about one set of twins in every eighty pregnancies, counting both viable pregnancies and the abortions. This ratio nearly agrees with that of the whole birth registration area of the United States. In a comprehensive study of this experience, Alan F. Guttmacher, M. D., has published two papers and anticipates several others. Two methods are commonly employed to differentiate single from double ovum twins: first, the study of the twins themselves; second, the study of the placental (the organ connecting the fetus with the mother by means of the umbilical cord) relations. The diagnosis by the first method is best made when the twins are between 2 and 4 years of age. Numerous physical criteria must be satisfied. To diagnose a pair of twins derived from one egg, the two members of the pair must be of the same sex. Although their features, including ears and teeth, must be alike, this resemblance need not be absolute. Each member of the pair may be thought to represent but one half of a single zygote (cell formed by union of two germ cells) and therefore the twins need not resemble each other more closely than the two lateral halves of one individual. Their hair must be identical in color, texture, natural curl and distribution. They must have eyes of the same color and shade and have the same skin texture and color. They must have hands and feet of the same conformation and approximately the same size. They must have similar finger and sole prints as well as certain other body similarities.

"In the second method of differentiation of single from double ovum twins, that of placental relations, it is assumed that if the embryos arise from two eggs they have separate placentas or a fused single placenta with a four layer partition wall.

"In the Johns Hopkins series of twins, and

on the basis of placental relations, 25.7 per cent were derived from one egg. This figure is almost the same as W. W. Greulich's 25.4 per cent, which was obtained by the other method of differentiation, the physical comparison of the twins themselves.

"The most common age group for single ovum twinning in the Johns Hopkins series was between 20 and 25 years. Double ovum twinning occurred to the women of various parity with the same frequency that would be expected were it just a chance phenomenon; double ovum twinning, however, was infrequent in women giving birth to first and second children, not twins.

"The antepartum (before delivery) diagnosis of twins frequently is difficult, having been missed in almost one third of a series of Johns Hopkins cases observed in a twelve year period. When both infants weighed less than 2,500 Gm., one half of the twin pregnancies remained undiagnosed, and when the larger twin weighed 2,500 Gm. or more, the correct antepartum diagnosis was made in about 17 per cent.

"A difference in weight existed in the twins at birth of primiparas (women having first child) and multiparas (women who have had several children). Among 127 primiparas, 36.2 per cent had twins of term weight; among 440 multiparas 52.7 per cent had term fetuses. Considering any twin pregnancy a term pregnancy if either of the two infants weighs 2,500 Gm., 49 per cent of this series of twin pregnancies were delivered at term, 38.7 per cent were delivered prematurely and 12.3 per cent were aborted.

"The twin pregnancies usually were more than two and a half weeks shorter than ordinary single pregnancies, the ratio having been 257.8 days versus 275.7 days, counting from the first day of the last menstrual period. The Negro women in this series of twin pregnancies had a shorter pregnancy by three and a half days than did the white women.

"Hypertensive toxemia was two and a half times as frequent in the twin pregnancies. Eclampsia (convulsions) occurred once in every thirty cases. The gravity of the association of toxemia with twin pregnancy was attested by the fact that 61 per cent of maternal twin deaths were associated with toxemias. Toxemic and functional vomiting were no more common, however, in twin than in single pregnancy."

NO KNOWN MEDICINE ACTS DIRECTLY ON THE GERMS OF TUBERCULOSIS

"As far as is known, there is no medicine that acts directly on the tubercle bacillus in vivo or uniformly increases the defense reaction of the body," Allan J. Hruby, M. D., Chicago, declares in *The Journal of the American Medical Association* for Sept. 16.

Drug treatment in pulmonary tuberculosis embraces three distinct fields, Dr. Hruby says, the treatment of symptoms, complications and of associated diseases.

"The treatment of the complications and associated diseases leads into every province of medicine," he states. "To meet the indications as they arise, the sanatorium of today has become a highly specialized institution with a staff of visiting consultants capable of treating competently all nontuberculosis conditions, surgical and medical, that afflict the consumptive in addition to the 'primary malady.'

"Fresh air, good food, high caloric, high mineral and high vitamin diets stressing vitamins A, B, C and D, sunshine, heliotherapy (sunshine treatment) for extrapulmonary lesions, postural change for drainage of cavities, rest in its various implications, complete bed rest, localized immobility through the medium of shot bags, corsets and other nonmedical or surgical procedures, psychic rest as well as physical, occupational treatment and other measures designed to complement rest of the body by promoting repose of the mind—this constitutes routine treatment."

As to the outlook for the future, Dr. Hruby states that: "The chief hope for a specific treatment in the future lies in research which should extend along lines of study directed toward the development of a drug that will stimulate the body's defense reactions."



HILL CREST SANITARIUM

FOR NERVOUS AND MENTAL DISEASES AND ADDICTIONS

Metrazol and Insulin Therapy Used in Selected Cases. Graduation Reduction Method Used in the Treatment of the Addictions

Thoroughly modern in architecture and construction. Eight departments—affording proper classification of patients. All outside rooms attractively furnished. Several bathrooms and rooms with private bath on each floor. Also a spacious sun parlor in each department. Located on the crest of Higdon Hill, 1050 feet above sea level, overlooking the city, and surrounded by an expanse of beautiful woodland. Ample provision made for diversion and helpful occupation. Adequate night and day nursing service maintained.

JAMES A. BECTON, M.D., Physician-in-Charge

P. O. Box 2896, Woodlawn Station, Birmingham, Alabama

Phones 9-1151 and 9-1152

References: Medical profession of Birmingham and Birmingham Chamber of Commerce.

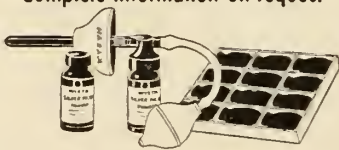


**A
CONVENIENT OFFICE
TREATMENT FOR
TRICHOMONAS
VAGINITIS**

THIS simple treatment requires but two office visits, a week apart, for insufflations and the nightly insertion of a Silver Picrate suppository for twelve nights.

Complete remission of symptoms and removal of the trichomonad from the vaginal smear usually is effected following the Silver Picrate treatment for trichomonas vaginitis.

Complete information on request



SILVER PICRATE

Wyeth



JOHN WYETH & BROTHER, INCORPORATED, Philadelphia, Pa.



ALLEN'S INVALID HOME

MILLEDGEVILLE, GA.

Established 1890

For the Treatment of
NERVOUS AND MENTAL DISEASES

Grounds 600 Acres
Buildings Brick Fireproof
Comfortable, Convenient
Site High and Healthful

E. W. Allen, M. D., Department for Men
H. D. Allen, M. D., Department for Women
Terms Reasonable

Miscellany

SULFAPYRIDINE BRINGS ABOUT RECOVERY OF GIRL WITH INFLUENZAL MENINGITIS

Treatment with sulfapyridine resulted in the recovery of a girl of 2 from influenzal meningitis with bacteria in the blood stream, Tom R. Hamilton, M. D., and Frank C. Neff, M. D., Kansas City, report in *The Journal of the American Medical Association* for Sept. 16.

The authors knew of no published report of this type of meningitis in which treatment with sulfapyridine had been successful but said it seemed advisable to try it, especially since serum treatment offered little benefit.

Their patient's temperature became normal on the sixteenth day of illness, up to which time sulfapyridine was used in large doses and then reduced. Recovery has been complete without any remaining detrimental signs.

THE JOURNAL

of

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Published Under the Auspices of the Board of Censors

Vol. 9, No. 5

Montgomery, Alabama

November 1939

CLINICAL ASPECTS OF THYROID DISEASE*

By

ADRIAN TAYLOR, M. D.

Clifton Springs, N. Y.

The invitation of the President of this Association to speak on some phase of thyroid disease is evidence of continued interest in the subject. It is to be remembered that two or three decades ago goitre surgeons were scarce and from the work of a few successful pioneers in thyroid surgery several of the great clinics of this country developed. The late Prof. William S. Halsted, himself a distinguished surgeon in this field, wrote, in the opening paragraphs of his memorable monograph, "The Operative Story of Goitre," that

"The extirpation of the thyroid gland for goitre typifies, perhaps better than any operation, the supreme triumph of the surgeon's art. A feat which today can be accomplished by any really competent operator without danger of mishap and which was conceived more than one thousand years ago might appear an unlikely competitor for a place in surgery so exalted.

"For thousands of years, probably, goitre has been a familiar malady. An unsightly and frequently fatal disease, it was accepted as an inoperable affliction or dispensation of Providence in communities where it prevailed, and paraded the streets exciting the curiosity of the populace in towns where it was unusual. The sufferers sought relief from suffocation, difficulty in swallowing, failure of the heart and from a distressing disfigurement. Thus this conspicuous tumor of the neck was a perpetual challenge to the physician, and to the surgeon a stigma as well."

Goitre was at one time defined as a swelling of the neck. Later it became more properly and better understood as an enlargement of the thyroid gland. In recent years, as knowledge has grown, it has become recognized that the thyroid gland may be diseased without enlargement, and for a brief

definition it may be said that goitre is "the abnormal portion of the thyroid gland."

Simplification in classification of the diseases of the thyroid has been noted in recent years, and one of the best is that given in the Standard Classified Nomenclature of Disease. It is as follows:

1. Diseases due to prenatal influences
2. Diseases due to infection (lower forms)
3. Diseases due to trauma or physical agents
4. New growths
5. Diseases due to unknown or uncertain causes, the structural reaction to which is manifest

Time does not permit nor does experience justify one in attempting to cover all phases of thyroid disease. Following the above classification a few conditions will be discussed.

Cretinism is congenital lack of thyroid secretion and the thyroid is infantile or undeveloped and histologically resembles the fetal gland. Dwarfism, idiocy and genital hypoplasia are characteristic of the condition. Occasionally a young cretin responds to administration of thyroid extract, less satisfactorily, however, than the victims of postoperative athyrea. In this regard it is to be noted that adults stand practically total removal of the normal thyroid gland surprisingly well, as is seen in those cases where radical removal has been done purposely to reduce the metabolic rate in cardiac decompensation.

Fetal adenomas are encapsulated tumors of embryonic origin, single or multiple, and are usually round, painless, and freely movable. The gland is asymmetrical. They occur in early life, usually in the center of the gland, and as they grow appear superficially. They are thought to be prone to toxic and malignant change and should be removed.

Acute pyogenic infection in the gland is rare. The chronic wooden thyroiditis or Riedel's strumitis is far more common, and tuberculosis of the thyroid has been seen once in the essayist's experience.

*Read before the Association in annual session, Montgomery, April 18, 1939.

As for injury, interstitial hematomata are frequently seen and are often mistaken for nodular enlargements. A history of sudden appearance with gradual disappearance is almost always to be obtained. These hemorrhages probably occur in diseased areas of the gland and may be unrelated to known trauma. Surgical intervention is seldom needed as the bleeding ceases spontaneously and absorption proceeds satisfactorily. In postoperative bleeding, however, reopening of the wound is imperative as serious pressure may occur rapidly if the hemorrhage remains unchecked.

In postoperative and post-irradiation athyrea, thyroid feeding must be relied upon as thyroid transplantation is still in an experimental stage, and at present there is no conclusive evidence that a transplant from one individual to another will continue to function.

Malignant disease of the thyroid is not rare, adenocarcinoma being frequently seen. Sarcoma is so infrequent that its occurrence is denied by good authorities. An undoubted case was seen recently by the writer, in which a large tumor was removed, the operation being followed by deep x-ray therapy.

Simple colloid goitre is not physiologic. It is a compensatory hypertrophy to meet a deficiency and is seen in periods of stress, such as puberty and pregnancy. Goitres of this type may be more easily prevented by providing a diet rich in minerals, especially iodine, or is easily furnished by the administration of 30 grains of sodium iodide twice a year. Marine's prescription of sodium iodide, grs. 30 in four ounces of water, to be taken in teaspoonful doses three times daily until consumed and repeated twice yearly has become a classic in preventive medicine. In his therapeutic experiment in Akron, Ohio, he also showed that the enlargement in simple colloid goitre would disappear under iodine therapy in a large percentage of cases, but it must be pointed out that not all colloid goitres will so respond, the prognosis being less favorable in cases of long duration.

Toxic diffuse goitre, or diffuse goitre with hyperthyroidism, is the accepted term for exophthalmic or hyperplastic goitre. This type is most frequently seen in America with the ever increasing strain of life, and infrequently in those countries where life is

lived on a lower plane. The rarity of exophthalmic goitre in China is of interest. Conditions there a few years ago were certainly more peaceful than in the recent past. The cardinal symptoms of tachycardia, increased basal metabolism, tremor, loss of weight, thyroid enlargement and exophthalmos must be ever borne in mind. In this condition surgery offers the best chance for cure. Iodine is invaluable in preparation for operation, but it is an unreliable and dangerous drug in the non-surgical care of these patients. The gland is usually definitely, uniformly enlarged, but nodules may be found in the diffuse hyperplastic gland, and types symptomatically and histologically mixed are seen.

The non-toxic nodular goitres often attain spectacular size and are the ones which were first subjected to attempts at surgical removal. They spring from fetal adenomas or from diffuse colloid goitres. Many of these disappear after periods of stress, but many leave multiple nodules throughout the gland, which may grow and give rise to enormous tumor masses. Prolongation into the thoracic cavity is frequent and instances have been reported where the tumors are entirely intrathoracic in nature. A recent report from the Lahey Clinic describes the technique of the removal of these large encapsulated mediastinal tumors. Lahey urges early operation in all cases where low lying nodular masses appear likely to sink beneath the manubrium and disappear within the thoracic cavity. Specimens removed in such cases may show the constricting marks of the clavicle, and technical difficulties in operating may be formidable.

The border line between toxic and the non-toxic nodular goitres is not sharply defined and it is impossible to be dogmatic as to diagnostic signs and symptoms. Many years ago Doctor Charles Mayo wrote of the length of time that the average nodular goitre could exist before toxic signs appeared. Nodular goitre with hyperthyroidism certainly presents a clinical picture differing from that seen in exophthalmic goitre. The eye signs and the tremor are usually absent, hypertension and myocardial and other parenchymatous degeneration are more frequent, and the basal metabolic rate is not as valuable a diagnostic aid. Autonomic imbalance may be the first pathologic manifestation of dysthyroidism associated

with nodular goitre, and may in itself be the cause of subsequent familiar clinical syndromes.

In concluding this brief review of some of the clinical aspects of thyroid disease, it must be pointed out that in this field surgery has achieved some of its greatest triumphs. In the non-toxic nodular goitres it offers hope of complete relief with minimum risk in almost all cases. In toxic goitre, both exophthalmic and nodular, complete relief may be expected in 85% of cases with improvement in 10% to 12%. Operative mortality should be below one per cent and the unimproved should not exceed 2% to 4%. Iodine will largely prevent simple goitre in endemic areas and will cause reduction in size of many diffusely enlarged glands. It is irreplaceable in the preoperative preparation of toxic patients for operation, the risk is greatly lowered and the technical difficulties of the operation are lessened, but it must be pointed out that the period of maximum improvement is a short one, and that the patient soon becomes iodine fast or refractory. Lahey emphasized this point as follows:

"We have always urged upon physicians that if their patients are not to be operated upon, they may give them all the iodine they choose, but if they are to be operated upon that they be sent to the surgeon not having had iodine, in order that he may give it to them, observe the period of maximum improvement and operate upon them thus with greater safety at that time."

The solution to the problems which arise in exophthalmic goitre requires attention to the patient's environment, and to his psychical, mental and physical state; and cooperation between internist and surgeon is essential. Great improvement is seen following rest, and a properly regulated regimen, but the patient's best chance for permanent cure lies in proper surgical therapy applied at the proper time. Many indices of thyroid activity have been used for a while and then discarded. Determinations of the metabolic rate before and after administration of iodine during a period of rest, with an evaluation of the clinical picture during this period, furnish the best means of estimating the proper time for surgical interference.

Since time will not permit of a description of operative technique, it must be sufficient to point out that the whole surgical procedure has been so perfected that anesthesia, either local or general, is safe and satisfactory; there is seldom need for preliminary

ligations or partial resections; meticulous hemostasis using silk technique makes drainage almost never necessary; the scar is inconspicuous and the operative risk approaches the vanishing point. Quoting Dr. Halsted again, it can be truly said:

"There are operations today more delicate and, perhaps, more difficult, but they have followed naturally and easily in the paths made clear for them. But is there any operative problem propounded so long ago and attacked by so many which has cost so much thought and endeavor and so many lives before its ultimate solution was achieved? And further, is there any problem in surgery having required for its solution such intrepid throbbing and prolonged striving of the world's greatest surgeons which has yielded results so bountiful and so adequate?"

THE ENEMA*

ITS USES AND ABUSES

By

CECIL D. GASTON, M. D., F. A. P. S., F. A. C. S.

And

HOWARD B. WILLIAMS, B. A., M. D.

Birmingham, Ala.

Since antiquity, cleansing of the lower bowel by irrigating solutions has survived all therapeutic changes. Discussion upon a modern premise is relevant. It is believed that irrigation of the lower bowel was first suggested to man in ancient Egypt by a long-billed bird, the sacred Ibis. This fowl administered an enema into its bowel by insertion of its bill between the legs and into its anus to dislodge impacted berries. At the time of Galen, there is displayed in Dresden a painting of a patient receiving an enema through a funnel, the patient assuming the knee-chest posture.

During the past decade, employment of enemas of various composition and quantity, not only by physicians but by others, has gone to irrational extremes. Even the laity has been extensively circularized by manufacturers of rectal irrigating apparatus. Pamphlets and brochures, describing treatment of almost every affliction by colonic irrigation, have been distributed by irregulars. Like all enduring institutions, we have taken the enema for granted. In its employment scant regard has been directed to anal sensitiveness, anorectal vulnerability and colonic mechanics.

*Read before the Association in annual session, Montgomery, April 18, 1939.

We cannot condemn, too strongly, the routine use of the so-called "internal bath"—the commercial colonic irrigation. Flushing of the colon with large quantities of water distends the bowel, removes all of Nature's normal lubricant—mucus—causes hyperemia and, eventually, abnormal quantities of mucus present. Our experience is that the more one irrigates the more mucus one gets. This mucous display is the response to an irritation. We have heard many victims of this quackery speak of the "foul-smelling" material that followed colonic bathing. These colons were normal. This foul-smelling discharge was the normal content of the ileum literally "vomited" through the colon with its essential vitamin and mineral elements.

The administration by enema of chemical solutions, formerly much in vogue in the treatment of dysentery, ulcerative colitis and other inflammatory processes, should be abandoned. They produce irritability and spasm of the colon, aggravating rather than arresting the pathologic processes.

The introduction of foodstuffs into the rectum is meritless. The colon will not absorb and utilize them. We particularly condemn the injection of a solution of glucose. Water, weak solutions of alcohol and physiologic saline solutions are readily absorbed and utilized. Because of the sensitive anal reflexes it is better to introduce four ounces of fluid every three hours, through a male rubber catheter, than to employ the continuous drip. Chloral and bromide administered into the rectum in watery solution are promptly effective as a hypnotic and sedative.

In ordering a routine enema for a patient many physicians thoughtlessly direct a soap-suds enema. The mucous membrane of the rectum and colon is intolerant to any liquid that contains even a small amount of soap. We have observed many cases of colitis and anorectal disease whose onset coincided with the administration of soap-suds enemas. By reason of the angry appearance of a diffusely hyperemic mucosa patients have received a diagnosis of proctitis and colitis following a soap-suds enema in preparation for sigmoidoscopy.

We deprecate the use of the hard-rubber enema tip. In a number of instances we have observed lacerations, ulcerations and infections that followed the forceful inser-

tion of hard-rubber enema tips. Misdirected efforts of orderlies, nurses, other attendants and even physicians to introduce a straight, hard-rubber enema tip with a sharp-rimmed aperture into a curved, exquisitely sensitive and often diseased anal canal have been responsible for innumerable cases of subsequent disease.

The insertion of the usual rectal tube with an end aperture is unwise. The rim of this aperture will injure friable, ulcerated, varicose or fissured tissue. In the insertion of a rectal tube we implore that you abandon the order to insert the tube as high as possible. By ordinary manipulation a tube cannot be inserted beyond the first rectal valve without its coiling in the rectal ampulla, or without injury to the rectal wall. It is not essential to insert a tube farther than beyond the grasp of the anal sphincter. After radiographic studies have proved that a rectal tube or catheter cannot usually be passed into the sigmoid without the use of a sigmoidoscope, one continues to hear of the "high" or "low" enema.

An enema should be administered in a fashion similar to gastric lavage. A large glass funnel to which is attached a large-caliber stomach tube with lateral aperture is the essential apparatus. A 24 F. to 28 F. catheter is the best size for anal insertion. The use of the conventional enema can of two-quart capacity with long tube should be abandoned because of the unnecessarily high water pressure.

In the administration of the enema, the patient is not placed upon a bedpan, unless conditions require, until the solution has been injected. At best there is little comfort upon a bedpan and resistance to the enema's administration results. The enema is administered with the patient preferably in the left or right lateral posture. The knee-chest posture may be employed if indicated or desired. The dorsal decubitus posture is used only when a patient cannot be rotated. In this latter posture there is a tendency to strain and resist the enema. Following the completion of the injection, the patient may be placed upon the bedpan or permitted to use the toilet if able to do so. For gentle lavage a total capacity of one quart of a solution should be used. For rapid expulsion a maximum capacity of 38 ounces should be used. Thirty-eight ounces is the limit that can be administered without regurgitation into the

ileum, and with this amount the resultant distention incites more rapid colonic contractions. During the insertion of the catheter its tip should be directed towards the umbilicus, and as soon as the tube is felt to pass the sphincteric grip further insertion should be discontinued. The solution is poured into the funnel from a pitcher, meticulous caution being observed to prevent the injection of air. The funnel is raised and lowered as indicated by the ebb and flow of the solution.

We advise a group of solutions that experience has shown to be the least irritating and the most effective in specific indications. Plain water, normal saline solution, sodium bicarbonate solution, an oil-retention enema, the alum enema and the peroxide enema are our choice. Additional solutions may be safely employed but these basic agents give a wide and effective range of employment. The cautious and selected use of these agents has a distinct and valuable place in therapeutics. For frequent administration, normal saline, plain water and a solution of sodium bicarbonate are advised. The best temperature for the solution is approximately 100 degrees Fahrenheit, never exceeding 120 degrees Fahrenheit. In conditions where excessive mucus must be washed away, a one per cent solution of sodium bicarbonate is effective.

The oil-retention enema has definite indications. Six to eight ounces of olive oil, slightly warmed, can be easily self-administered through a 28 F. rubber catheter to which is attached a large Aseptic catheter syringe. The patient is instructed to employ the oil at bedtime and retain overnight. The oil quickly reaches the cecum following injection. This measure is of value in cases of intestinal stasis, the spastic colon, the neurogenic colon—miscalled mucous colitis—and colonic diverticulosis. The oil is not absorbed and inhibits the growth of pathogenic bacteria. In cases of intestinal stasis, it has been demonstrated that the urine shows a rapid fall in indican content following employment of a series of oil-retention enemas.

For the relief of flatus better results can be gained from the gently astringent and stimulating effect of a weak solution of alum than from the extremely irritating effect of turpentine, milk, molasses and glycerine.

When the fecal mass has become desiccated or impacted a hydrogen peroxide enema, 10 to 25 per cent, is effective. This enema

must be administered with extreme caution. If diverticulosis, ulcerative lesions or neoplastic growths are present, rupture of the bowel may follow its administration. When its use is indicated we administer this enema personally. Its employment should not be left to nurses, orderlies or other attendants.

The presence of feces plugging the lower end of the colon will often lead to the accumulation of gas in the splenic flexure and of feces in the cecum. The stagnation of feces in the right side of the colon will in turn produce irritation and even actual typhlitis, and with this there may be pain resembling appendicitis. In these cases, if the rectal plug is removed gently by an eight ounce enema of warm saline, the flatulence and discomfort will be relieved. These persons often have a very sensitive colon and if one tries to inject any irritating solution, especially soap-suds, much irritation, spasm and mucus follow. In most cases of constipation, the stagnation of feces is in the last few inches of the bowel. Similarly, in postoperative flatus, the gentle injection, through a catheter syringe, of several ounces of warm, physiologic saline through a 24 F. male rubber catheter is a gratifyingly effective and safe procedure.

In conclusion, we plead for a more careful selection of the solution to be injected, and for your consideration of mechanical, anatomic and physiologic principles in the enema's employment. One will be repaid by less rectal and colonic morbidity, more effective results and more grateful patients.

HABITUAL USE OF ALCOHOL IN ALABAMA*

By

W. D. PARTLOW, M. D.
Tuscaloosa, Ala.

While I have been asked to have something to say on the subject of alcoholism as a problem in Alabama, it is difficult to approach the discussion of this subject without considering the general problem of alcoholism. Hence, I shall endeavor to discuss the subject in a general way with some indication as to what the problem really is in Alabama.

The habitual or excessive use of alcohol is as old as the human race. Plutarch, Aris-

*Read before the Association in annual session, Montgomery, April 18, 1939.

totle and Hippocrates wrote extensively of its deleterious effects upon the human organism. In 1844 Flemming described various mental manifestations due to alcohol.

I would be expected to confine this discussion to the medical or, more specifically, to the psychiatric angle of the problem, but since the proper approach is the influence of alcohol upon human behavior the social and penal aspects of the subject are germane to this discussion.

The extent and trend of the problem must be first measured by quantities consumed. Within the years 1920 to 1930 according to the United States Census the amount of spirituous liquors produced annually ranged from 1,148,000 gallons to 3,307,000 gallons per year, an average of about 2,000,000 gallons per year. These were national prohibition years, the period of national prohibition beginning in 1920 and continuing until 1933. The total amount of spirituous liquors in storage in bonded warehouses at the end of 1930 was 16,798,775.4 gallons.

The U. S. Treasury Department released for publication on November 21, 1938 a report of the Bureau of Internal Revenue supplying data covering the year ending June 30, 1938, from which I quote: "There were produced at registered distilleries during the fiscal year 1938, 112,895,872 gallons of whiskey, 2,170,269 gallons of rum, 6,148,000 gallons of gin, 22,544,330 gallons of brandy and 16,397,453 gallons of other spirits, a total of 150,155,927 gallons. The total production in 1937 amounted to 258,956,886 gallons, and in 1936 to 253,867,925 gallons. Sufficient stock having accumulated, whiskey production was the smallest since the first year following repeal of the Eighteenth Amendment." This does not account for imported whiskies. My impression is the imports always amount to a great deal more than exports in American liquor trade. The amount produced and distributed in America in the year 1937 was sufficient to supply every man, woman and child with more than two gallons each of hard liquor. This marked increase in the consumption of alcohol as a beverage in America from an average of 2,000,000 gallons per year to an average of more than 200,000,000 gallons per year is due to several contributing factors in my opinion.

A generation ago it was generally and almost universally taught that whiskey was a danger and a menace and a thing to be avoided. At present it is more or less looked upon

from a physical or health standpoint as a harmless beverage. Formerly it was looked upon more or less as a disreputable enemy to the human race, to be patronized only in hidden places and associated with disgrace and scandal. It has now been made highly respectable and the congenial associate of all circles of respected society. At one time it was patronized largely and almost solely by the habitual bums and disreputable classes, associated with crime, debauch and delinquency, its patrons confined always exclusively to the male sex who were unfit to associate with the opposite sex or with self-respecting people. Today it has its free and easy entree into all circles, including both sexes, being socially popular almost universally. Even tolerance and lack of frank expression of opinion as to risk and danger is observed in our own medical profession. In a report on Alcohol and Health, coming out of our own U. S. Public Health Service in Washington, there is quoted with approbation, approval and endorsement from an advertisement of a well-known distillery, which is intended to popularize and increase the general consumption of whiskies, the following: "There is a common problem which you as consumers and we as distillers share. It is the right use of liquor—drinking in moderation. Every intelligent person realizes that there are two kinds of drinking. One is moderation; the enjoyment of good liquor for its taste, its aroma, warmth, and the friendly feeling it engenders. The other is excess with the unpleasantness, embarrassment and regret it generally brings. Between these two there is a sharp dividing line. The dividing line is the extra drink that is one too many. A thoughtless minority must not be allowed to endanger the liberty and enjoyment of countless thousands who consume whiskey as it should be consumed—in moderation." How many seeing and hearing this beautiful quotation would not immediately feel inclined to take another drink?

A second factor is the world trend toward liberalism of thought and action. There was a time when there were definite and positive standards of respectable living. A modern liberal trend is toward a broader tolerance of whatever pleases and satisfies an inclination being permitted and accepted. Hence, while not long ago no daughter of a respectable family could associate with a man who drank habitually or excessively

and it was unheard of for her to take a drink at all, under present customs not only the boys and men drink with impunity but the girls openly join them and I am told often demand the gentleman companion to carry a flask on his hip.

Now it is the purpose of this discussion to call attention to the results or effects of some of these changes of attitude as to evil effects of alcohol on mentality and behavior. Science once endeavored to establish alcohol as a stimulant and as a food. I believe all scientific information now denies both claims and classifies alcohol among the depressing and sedative drugs, with its physiologic effect directly upon and through the central nervous system. Its effect in any quantity, but in proportion to quantity, is to retard impulse and to retard both afferent and efferent conduction, and in sufficient doses to completely paralyze these functions. The final conclusions of an Alcohol Investigation Committee of the British Medical Research Council were:

"a. That the main action of alcohol apart from the effects of its continued excessive use is confined to the nervous system.

b. That alcohol is narcotic rather than stimulant in action.

c. That its nutritional value is strictly limited.

d. That its habitual use as an aid to work is physiologically unsound."

The effect of alcohol upon the nervous system is sedative or narcotic and this effect may be expressed almost completely and fully in its retarding effect upon that normal faculty or function of mind termed inhibition. All people with normal or average mentality possess this faculty of inhibition in varying degrees. The normal mental process is for inhibition to check, examine and approve every mental process or impulse before that impulse is permitted to be expressed or acted upon. As impulses or thoughts are generated by the human organism inhibition immediately asks and answers the question, "Is this proper, prudent, right, etc?" and answers its question before the thought is permitted expression. It is this important faculty of mind that guides the conduct, behavior and expression within prudent and accepted channels. The effect of alcohol is to retard or, if in sufficient quantity, to paralyze this faculty of inhibition so that voluntary impulses or thoughts lack this usual check, and, therefore, run

immediately into expression or action in the foolish or unguarded statements or acts of the intoxicated which attract the attention of others and often furnish either amusement or criticism, or often grounds for police and court action against the intoxicated, and serve as grounds for regret and mortification to the individual when he does recover his normal degree of introspection and self-checking with consequent insight into his untoward behavior. Human misbehavior, delinquency and crime incident to this definite and positive effect of alcohol are well-known to all people. This retarding of inhibitory control is observed not only in the central nervous system and its distribution but also extends into the sympathetic system. The quickening of the pulse often observed following alcohol has been proven not to be due to stimulation but to removal of inhibitory control. One does not worry or sorrow or suffer pain under alcoholic poison simply because the inhibitory action is removed and he really suffers without knowing it. Mansterberg says that "Psychologically the case stands thus: Alcohol has indeed an inhibitory influence on mind and body. The feeling of excitement, the greater ease of motor impulse, the feeling of strength and joy, the forgetting of sorrow and pain—all are at bottom the result of inhibitions; impulses are let free because the checking centers are inhibited."

If all people possessed stable brains and nervous systems, the temptation to alcoholic beverages would not endanger, but there are so many deviations from constitutional weaknesses and deficiencies that alcohol supplies a dangerous avenue for habitual and excessive use. The person who may in any way be neurasthenic or psychasthenic, and, consequently, uncomfortable without resorting to something artificial finds in alcohol a sedative or narcotic effect which eliminates or cuts off as it were the conscious recognition of physical or mental discomfort. Like opiates or other narcotics or sedatives, if it continues to relieve, its consumption must continue in increasing quantities. Thus with this rather large class of individuals it easily becomes a habit beyond voluntary control.

The extent of the problem may be emphasized by quoting from the U. S. Census Report for the year 1936 to the effect that 14,936 alcoholics were admitted to state hos-

pitals, which was 12.4 per cent of the total admissions for the year.

It is interesting to note the change in our own state in the past fifteen years. In spite of the fact that fifteen years ago we were not so cramped for room and were more liberal in admitting alcoholics who applied, whereas during recent years we have endeavored not to admit alcoholics and have so advised all committing judges of the state, yet the numbers applying have rather rapidly increased year by year and the actual number of admissions has increased, notwithstanding our policy and practice of declining most applications for alcoholics—even though we try not to admit alcoholics our admission tables of white patients show alcoholic admissions 1924 to 1934 ranged from 5 to 40, no women, while in 1935 the number admitted was 73, 1936—93, 1937—144 and 1938—75, including women.

My impression also is that crime associated with alcoholism has increased in Alabama. As an index, the Police Department of Birmingham reports "number of arrests for drunkenness and disorderly conduct due to alcoholic intoxication" a gradual increase of numbers from 4,519 in 1928 to 10,904 in 1936. In the City of Washington the number of arrests for intoxication, not including disorderly conduct due to alcoholic intoxication, has increased gradually year by year from 3,274 in 1910 to a maximum of 24,053 in 1934, dropping off a little since 1934 to 19,126 in 1936.

Therefore, we must conclude that the excessive use of alcohol seems to be gradually increasing and that human behavior more and more is being influenced by alcoholic intoxication.

The further question of the effects of habitual or excessive alcoholic intoxication upon progeny, which is somewhat in dispute, is important but cannot be gone into in detail here. In my opinion the excessive use of alcohol disqualifies for parenthood, particularly in periods of debauch. Very considerable numbers of cases of epilepsy and mental deficiency can in my opinion be attributed to alcoholic intoxication in the parent.

With this growing problem of alcoholism, both as a social and psychiatric problem, the natural question is: What can be done about it? Largely what we hope to accomplish must be through education of the masses as

to the dangers and deleterious effects of alcohol. I have no condemnation of efforts at legislation and regulation, though these seeming to have failed teaching and education seem to be our greatest hope. As the numbers continue to grow it seems evident that the state will be compelled to deal specifically with the problem of treatment, cure and discipline of the habitual drunkard, as well as an effort to handle the sale of the drug. In my opinion, the consumer is the greater offender of the two. Institutional care should cover and include both treatment and discipline, with authority to parole and authority to revoke paroles.

ACUTE GASTRO-INTESTINAL INTOXICATION*

MANAGEMENT IN INFANCY AND CHILDHOOD

By

J. H. BAUMHAUER, M. D.
Mobile, Alabama

The purpose of this paper is to discuss the management of acute gastro-intestinal intoxication in a practical commonsense way, and although nothing new will be presented it is hoped that it will serve to emphasize a few of the salient points.

According to very recent statistics released by the Metropolitan Life Insurance Company, the death rate per 100,000 population from diarrhea and enteritis has been reduced from 24 in 1928 to 7.3 in 1938. In 1938, deaths in children one to four years of age were reduced to less than one-fifth of those registered in 1911. In a five-year period at the City Hospital of Mobile, 234 children were admitted to the pediatric wards with a diagnosis of acute intestinal intoxication, and of this number 48 died with a resulting death rate of approximately 20 per cent. These are interesting statistics, but with a little more knowledge the morbidity and the mortality from these diseases may be even further reduced.

The important essentials in preventing severe nutritional disturbances are the maintenance of normal nutrition and the avoidance or prompt treatment of infections. Normal nutrition is attained by giving the child a diet adequate in all essentials and in a form digestible by the infant. The min-

*Read before the Association in annual session, Montgomery, April 18, 1939.

imum requirements for protein and the necessary vitamins must be met. An adequate fluid intake, especially during the summer months, tends to insure against the development of dehydration. Bacterial cleanliness of the food and utensils is essential, as well as heat sterilization. Children should be protected from excessive heat, and during hot weather the diet should be considerably reduced. It has been our practice to dilute the milk, and make no attempt during very hot weather to feed the child anything but light food. Fruit juices may be substituted for milk. Cautious gradual introduction of food new to the infant, and the prevention of parenteral infections by avoiding colds, and their prompt treatment when they occur, are important prophylactic procedures.

Before a discussion of the management of acute gastro-intestinal intoxication is undertaken we must take into consideration the nature of the bacteria present in the intestinal tract. Two groups of bacteria, the acid forming and the protein-splitting, occupy the intestinal tract, and either may be the active cause. If the first is operative, the stools are highly acid, as indicated by the reaction to litmus paper pushed within the anus. The passages are frequently green and scald the buttocks. This is the fermentative type and is by far the most frequent. If the protein-splitting (putrefactive) group of bacteria is the cause, the stools are brown, alkaline and offensive. No attempt is made to find out the actual organism that may be causing the diarrheal disorder, as specific sera have not proved of value in the routine treatment of this condition. In fact, strains of dysentery bacilli have been isolated from the stools of apparently healthy infants.

Great harm is done by using "the starvation method of treatment." These children should not be subjected to any prolonged periods of starvation. If such a period is used it must not extend over 12 hours. In the management of practically all of the acute intestinal disorders much better results are obtained when the intestines are kept filled and good nutrition is maintained. This tends to splint the intestines and thus lessen the amount of irritation.

If the child is vomiting, first consideration must be given to alleviating this state. No attempt is made to treat the diarrhea until the vomiting has been stopped. In early cases we have found small, broken doses of

milk of magnesia with cracked ice very effective. These serve to control the nausea and clean out the intestinal tract. A two-hour rest period is then allowed. If the child is severely ill or if the illness is of longer duration, stomach lavage is used, followed by intravenous glucose in saline. It would appear that a combination of glucose and saline is most suitable. The glucose solution supplies water to correct dehydration, and for the excretion of unwanted acids and toxic substances. It also provides antiketogenic material and calories. The saline solution supplies the bases and the acid which have been lost through vomiting and diarrhea. The best results are obtained when three-quarters of the parenteral fluid is administered in 5% glucose, and one-quarter in the form of physiologic saline solution.

In early cases of diarrhea, unaccompanied by vomiting, castor oil with a few drops of paregoric are given if the case is seen early. To a child of two years, 2 drams of castor oil and 5 drops of paregoric are administered. Cereal waters are then offered for several hours. Scraped raw apple, ripe bananas, and weak tea sweetened with saccharine are then given in generous amounts. Usually one to six tablespoonsful of the fruit and a fairly large glass of tea may be given every two to three hours, since children like these foods. Tea supplies fluid and has an astringent action. This diet is continued from 24 to 72 hours, at which time, if the diarrhea is of the fermentative type and is mild, buttermilk, boiled skimmed milk, clear broth, egg albumin and plain gelatin are substituted for the first diet. If there is a more severe type of fermentative gastro-intestinal intoxication, powdered protein milk is given. At first a dilution of a tablespoonful in six ounces of boiled cooled water is used. The child is offered this amount every two to three hours. This mixture may be sweetened with saccharine and if a small amount of vanilla flavoring is used the child will take it more readily. As tolerance develops two tablespoonsful to each six ounces of water, and later three tablespoonsful of the protein milk to each seven ounces of water, may be given. This diet amply supplies the food and the fluid that are needed, and within a few days the stools become of better character and are less frequent. These children very often gain weight on this diet. When constipation results small amounts of

carbohydrates are added, and following this the transition to broth, egg albumin, dry toast, gelatin and other light foods is begun.

When the putrefactive organisms are at fault, a carbohydrate diet, such as well-cooked strained cereals, toast, and baked Irish potato, are given with just enough gelatin and broth to supply the protein needs.

By carefully watching the character of the stools a great deal may be learned about the progress of the condition. Occasionally, the stools may change from fermentative to putrefactive and vice versa. By judiciously changing the diet to meet this condition, good results will be obtained. One of the kaolin products is given because we feel that they have absorbitive power, and besides are soothing to the intestinal tract.

If there is tenesmus this is greatly relieved when the intestinal tract is filled. However, starch enemas, using one tablespoonful of corn-starch to each pint of warm water, are given. They may be administered once or twice daily. Occasionally starch enemas make the tenesmus worse, and if this occurs they should be discontinued. When the stools contain pus in considerable quantities one may be sure that the child will be ill for some time. Colonic irrigation with normal saline is of great help in these cases.

Transfusions have been used with excellent results. They should not be given, however, during the stage of acute dehydration. The water content of the body must first be restored, at least partially. Transfusions given when the blood is concentrated and the tissues desiccated may, by increasing blood concentration, lead to exacerbation of all the symptoms, including temperature elevation. Transfusions are indicated in practically all severe cases and they are of value because they restore the blood volume, plasma protein, and corpuscular count more rapidly than can be brought about by feeding alone. With restoration of blood volume, the circulation is improved, resulting, among other effects, in better digestion and absorption of the food. Transfusion also serves to introduce immune bodies and in that way may aid in the overcoming of infections. Repeated small transfusions of 10 cc. or less per pound of body weight are preferable to a single large transfusion.

In severe cases it may be necessary to use supportive treatment. Whiskey and other stimulants may be given as needed. In toxic

cases, intravenous or intramuscular administration of 2 cc. of a 10% solution of calcium gluconate renders nontoxic the toxic principal guanidine present. This may be given mixed with the glucose solution intravenously and should be repeated daily until the child is definitely less toxic.

SUMMARY

1. The important essentials in preventing severe nutritional disturbances are the maintenance of normal nutrition and the avoidance or prompt treatment of infections.

2. Two groups of bacteria, the acid forming and the protein-splitting, occupy the intestinal tract and either may be the active cause of acute gastro-intestinal intoxication.

3. The "starvation method of treatment" must not be used. These children should not be subjected to any prolonged periods of starvation.

4. If the child is vomiting, first consideration must be given to alleviating this state.

5. If the case is seen early, a laxative is given; otherwise none is administered.

6. Suitable diets for the management of the two types of acute gastro-intestinal intoxication are outlined.

7. In severe cases, glucose in saline is given.

8. The indications for transfusions are outlined.

DISCUSSION

J. C. Gladney, M. D. (Jasper)—This subject is synonymous with what is generally known as food poisoning. The toxic substances may be present in food and drink when ingested or may be formed in the stomach and intestines by putrefaction and fermentation.

The stomach, if the patient has not vomited, should be emptied by repeated small doses of syrup of ipecac or small stomach tube. A weak solution of sodium bicarbonate should be used for the lavage.

If the bowels have not already moved three or four times, an half-ounce of castor oil or milk of magnesia should be introduced through the tube and left in the stomach to secure prompt and complete evacuation of the bowel contents.

The second most important part of the treatment is the maintenance of normal body fluids which has to be done by hypodermoclysis in infants and small children. Normal salt solution or a 2% dextrose in normal saline may be used. In older children, 5 or 10% glucose in saline should be given intravenously every eight hours until nausea and vomiting stop. Weak tea, coffee, water, orange juice and a solution of karo syrup and water may be given by mouth in small amounts at frequent intervals. Instead of trying to check the bowels, endeavor to maintain the body fluids

despite the severe diarrhea. The diarrhea is serving a very useful purpose in ridding the intestinal tract of dangerous toxins and organisms.

Nearly all the troublesome cases of nausea and vomiting which I have treated were controlled very promptly by giving two or three drams, every twenty minutes, of a 10% solution of glucose in equal parts of orange juice and normal salt solution.

Aspirin, sponging with tap water or alcohol, and ice bags should be used to control high fever and prevent convulsions.

Kaomagma, bismuth and kaopectate are probably useful after the first two or three days. Enough tincture of camphorated opium may be added to these to lessen the frequency but not to abruptly check the bowels.

ATABRINE AS A MALARIAL
PROPHYLACTIC AGENT
EXPERIMENTS IN ALABAMA

By
D. G. GILL, M. D.*
Montgomery
And
MURRAY SMITH, M. D.†
Tuskegee, Ala.

During the years 1937 and 1938, experiments in the use of atabrine as a malarial prophylactic agent were carried out in Macon County, Alabama. Results obtained during the first year of this experiment have been previously reported.¹ It is now desired to add the findings from the second year's work.

These experiments were conducted in an area of Macon County with a very high history rate of malaria and in an area where no other preventive measures were used. During 1937, one-half of the population was taken as an experimental group and the remainder served as a control. To the experimental group, atabrine was administered on two non-consecutive days during the week and careful records were kept of the number of cases of clinical malaria developing in both groups. The results may be shown by tabulations in Tables 1 and 2.

The results obtained during 1937 were definitely encouraging, hence a second year's study was undertaken. The same areas were used as in the previous year, although there was some shifting of population so that the

individuals were not identical. The following changes in method were incorporated into the 1938 study:

(1) No atabrine was given to those found to have positive blood films in the spring survey.

(2) The dosage of atabrine used was increased as follows:

	1937 Dosage (twice weekly)	1938 Dosage (twice weekly)
Age		
1-4	0.025 gm.	0.05 gm.
5-8	0.05 gm.	0.10 gm.
9-14	0.10 gm.	0.15 gm.
15+	0.15 gm.	0.20 gm.

(3) In all cases of illness placebo tablets were administered until the diagnosis was established.

(4) Mosquito-catching stations were established and checked bi-monthly.

Tables 3, 4 and 5 give the results of the 1938 study.

MOSQUITO CATCHES		
	6 Stations (Experimental Area)	6 Stations (Control Area)
Date		
6-15-38	75	12
7- 1-38	66	4
7-18-38	122	6
7-30-38	125	5
8-15-38	51	6
8-30-38	143	55
9-15-38	145	26
9-30-38	29	2
10-20-38	14	3
11- 1-38	3	0

Ninety per cent of the mosquitoes caught in the experimental area stations were identified as *Anopheles quadrimaculatus*. Seventy-six per cent of those caught in the control area were similarly identified as *quadrimaculatus*. From early in August until the conclusion of the study there was almost no rainfall and many of the breeding areas became dry. Mosquito catches dropped rapidly after September 15th.

The 1938 study was conducted on a group with much less malaria infection at the beginning of the year than was true in 1937. This it is believed was due to the treatment administered during the first year of the experiment. The mosquito catches revealed a much heavier infestation of *Anopheles quadrimaculatus* in the prophylactic area than in the control section and vectors for transmission were plentiful.

The drug was administered by two nurses and was taken in their presence. No supplies were sent home for absent members. The

*Director of Preventable Diseases, State Department of Health.

†Health Officer, Macon County.

1. Gill, D. G., and Smith, Murray: Atabrine as a Malarial Prophylactic Agent, J. M. A. Alabama 8: 66-68 (August) 1938.

TABLE 1
BLOOD PARASITE SURVEYS DURING 1937

Group	June			August			November		
	No. Exam.	No. Pos.	Per Cent Pos.	No. Exam.	No. Pos.	Per Cent Pos.	No. Exam.	No. Pos.	Per Cent Pos.
Prophylactic Group	723	166	22.9	717	23	3.2	666	23	3.4
Control Group	777	101	13.0	749	58	7.7	559	26	4.6

TABLE 2
OCCURRENCE OF CLINICAL MALARIA BY MONTHS
1937

Month	Prophylactic Group (776 Persons)		Control Group (778 Persons)	
	Cases	Per Cent Morbidity	Cases	Per Cent Morbidity
July	7	1.0	26	3.3
August	3	0.4	43	5.5
September	2	0.3	16	2.1
October	0	0.0	11	1.4
Total	12	1.7	96	12.3

TABLE 3
RACE AND AGE COMPOSITION

Group	Race		Age Distribution				Total
	W.	C.	1-4	5-9	10-14	15+	
Prophylactic Group	16	734	88	99	124	489	800
Control Group	53	737	115	105	126	444	790
Both Groups	69	1521	203	204	250	933	1590

TABLE 4
BLOOD PARASITE SURVEYS DURING 1938

Group	May			August			November		
	No. Exam.	No. Pos.	Per Cent Pos.	No. Exam.	No. Pos.	Per Cent Pos.	No. Exam.	No. Pos.	Per Cent Pos.
Prophylactic Group	800	28	3.5	795	9	1.13	792	4	0.5
Control Group	790	17	2.15	788	22	2.79	776	30	3.87

TABLE 5
OCCURRENCE OF CLINICAL MALARIA BY MONTHS
(1938)

Month	Prophylactic Group (800 Persons)		Control Group (790 Persons)	
	Cases	Per Cent Morbidity	Cases	Per Cent Morbidity
June	2	0.25	6	0.76
July	2	0.25	13	1.64
August	3	0.38	20	2.53
September	0	0.0	8	1.01
October	1	0.13	8	1.01
Total	8	1.0	55	6.96

administration began on June 9th and terminated on November 14th. It was possible for an individual to receive the drug 46 times and the average for the whole group was 40.6 times. Thus the average adult dosage during the season was 8.12 grams.

Only eight clinical cases of malaria developed among those taking atabrine during 1938. Three of these had received atabrine four times, one five times, one six times, one thirteen times, one fourteen times and one twenty-two times. Most of these were irregular in their attendance at clinics and were absent more than half the time. Four had positive smears for *P. falciparum*, one for unclassified plasmodia and three were negative at the time of illness. In contrast, there were fifty-five clinical cases of malaria among the controls. Thirty-eight of these were positive for *P. falciparum*, nine were positive for *P. vivax*, two were positive for unclassified plasmodia and six were negative at the time of illness. Six of these fifty-five individuals had second attacks during the season. In two cases the infection was *P. falciparum* with one attack and *P. vivax* with the other. The other four had *P. falciparum* on both occasions. One man had four clinical attacks—unclassified plasmodia June 15th, *vivax* August 16th, *falciparum* August 27th and unclassified September 27th.

In the atabrine group thirteen individuals whose blood was negative in the May survey showed plasmodia at either the August or November surveys. Three of these had clinical attacks during the summer so an additional ten became positive without evidence of clinical malaria. None of the original positives were found positive at later surveys.

In the control group, forty-four persons whose blood was negative in May showed plasmodia at one of the later surveys. Twenty of these had clinical attacks of malaria while the remaining twenty-four reported no clinical evidence of disease. Four were positive at both the August and October surveys and four of the positives in May were positive in August.

DISCUSSION AND SUMMARY

The efficacy of atabrine in preventing clinical attacks of malaria was studied in an area located in Macon County, Alabama, during the summer season of 1937 and 1938.

Atabrine in varying doses was administered on two non-consecutive days of each week to one group and a similar group was used as a control.

In 1937 the blood parasite index in the prophylactic group fell from 22.9% in June to 3.4% in November. At the same time the index in the control group fell from 13% to 4.6%. Clinical attacks of malaria numbered twelve (1.7%) in the atabrine group as compared to ninety-six (12.3%) in the control group. During 1938 the blood parasite index in the prophylactic group fell from 3.5% in May to 0.5% in November. In the control group the index rose from 2.15% to 3.87% during the same period. The number of clinical attacks in the prophylactic group was eight (1%) during the entire season as compared to fifty-five (6.96%) in the group receiving no atabrine.

During the two-year period there were thus 20 clinical cases of malaria in the atabrine group as compared to 151 in the control group. The blood parasite index fell from 22.9% in June of 1937 to 0.5% in November 1938 in the prophylactic area and from 13.0% to 3.87% in the controls. The groups were not identical during the two years, however, so are not strictly comparable.

Mosquito catches during 1938 revealed greater density of *Anopheles quadrimaculatus* in the area used for the drug than in the control area.

From the results of these studies we believe that the reduction in clinical attacks of malaria was due to the atabrine administered. The use of atabrine in an area not amenable to other control measures would seem a logical method of combating malaria.

Drug Addiction—Addiction to drugs has existed since the dawn of recorded history. Efforts at control of the complex medico-social problems presented have gone through an evolutionary process which has paralleled the efforts at treatment of the more markedly mentally ill. This is a new day. We think of the insane and neurotics as sick people. We likewise think of drug addicts as sick people worthy of efforts aimed at getting them well.—Ossenfort, Texas M. J., Oct. '39.

NEXT MEETING OF THE ASSOCIATION

BIRMINGHAM

APRIL 16-18, 1940

THE JOURNAL

of the

Medical Association of the State of Alabama

Editor-in-Chief

FRED W. WILKERSON Montgomery

Associate Editors

M. Y. DABNEY Birmingham

W. D. PARTLOW Tuscaloosa

J. N. BAKER Montgomery

DOUGLAS L. CANNON Montgomery

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

Office of Publication

519 Dexter Avenue Montgomery, Ala.

Subscription Price \$3.00 Per Year

November 1939

THE HEART IN ANEMIA

"Oxygen transport to the tissues is dependent both on the proper functioning of the cardiovascular apparatus and on an adequate level of hemoglobin in the circulating blood. The heart and the peripheral circulation act as the propulsive and distributive forces for this function and the hemoglobin as the vehicle. Hence any marked insufficiency in the hemoglobin throws a burden on the circulatory apparatus, and this additional strain may result in clinical symptoms and signs referable to the heart and peripheral blood vessels."

The above is the opening paragraph of the report of Ellis and Faulkner¹ upon their studies of this subject. The authors "made clinical observations on a series of 47 patients with severe chronic anemia (hemoglobin levels varying from 8 to 57 per cent) in 19 of whom the anemia was of the hyperchromic variety and in 28 of whom it was hypochromic. Thirty-one of these cases have also been studied when the anemia had been partially or completely relieved. None of these patients had any definite evidence of heart disease except that many of them fell into the older age group and therefore inevitably had degenerative vascular disease to a greater or lesser degree."

1. Ellis, Laurence B., and Faulkner, James M.: The Heart in Anemia, New England J. Med. 220: 943 (June 8) 1939.

The Boston investigators found that "twenty of the 38 cases whose hearts were studied by x-ray showed cardiac enlargement, and of the 26 who were followed 18 showed a decrease in heart size with improvement of the hemoglobin level.

"Thirty-two of 46 patients exhibited systolic murmurs. In 14 of the 19 who were followed the murmur became markedly less or absent. . .

"The anemia tended to produce a lowering of the systolic and diastolic arterial blood pressures.

"Of the 45 patients studied by electrocardiogram, 10 showed abnormal records. In a group of 29 patients who were followed, 7 showed abnormal records, of which 5 became normal as the blood level increased. . ."

The effects of severe chronic anemia upon the heart have been studied and reported many times during the past century and terms like "hemic murmurs" and "cardiac bruits in chlorosis" are familiar ones to older practitioners and can be found in the literature of yesteryear. But accurate and painstaking studies such as those of Ellis and Faulkner are all too rare, especially their comparison of the same individuals in the severely anemic and the partially or completely cured states. The Boston investigators have indeed done well and it is to be hoped that further studies along these lines will be made. And practitioners will do well to remember their final warning that "it is emphasized that patients with anemia are often erroneously diagnosed as suffering from heart disease, and also that since anemia is an aggravating burden in persons with organic heart disease it is important that it be recognized and treated in such cases."

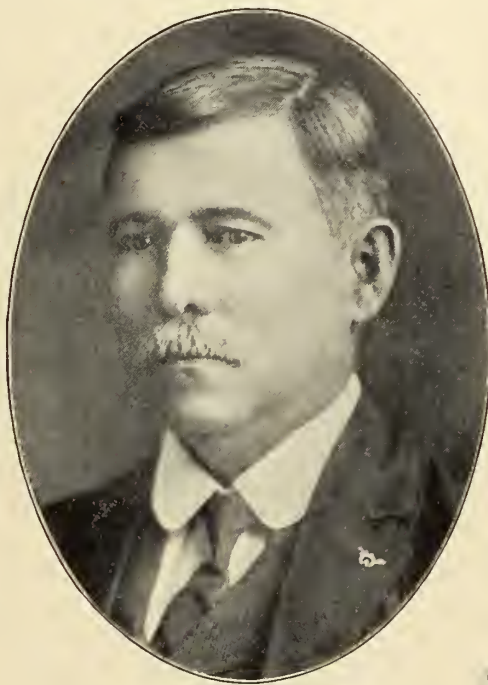
"The public is being constantly reminded of the subject of cancer through the many interesting and novel experiments and investigations which are carried as news items by daily papers and magazines. Bizarre news items always excite public interest, as has recently been noted in the instance of the refrigeration treatment of cancer. Public interest has likewise been stimulated by suggestions as to the value of vitamins and glandular products as prophylactic and therapeutic agencies in the treatment of malignancies. Recent studies of these two agencies encourage us to hope that we may be on the threshold of some valuable measures applicable to our efforts in reducing deaths from this disease."

In Memoriam



DR. C. C. JONES
1846-1939

President of the Association in 1905



DR. J. U. RAY
1864-1939

Treasurer of the Association from 1915



Committee Contributions

Maternal and Infant Welfare

The Committee on Maternal and Infant Welfare has adopted a ten-point program in cooperation with the State Health Department.

1. Improvement of maternal and infant care for all women and children.

2. Encourage each county medical society to have a committee on maternal and infant welfare to:

a. Cooperate with the Association in its committee work.

b. Study local maternal and infant welfare problems.

c. Consider plans to give better care to mothers and infants.

d. Study maternal deaths in the county.

e. Cooperate with the State Health Department in its maternity program.

3. Obtain speakers for local society meetings. Encourage each county society to hold at least one meeting on maternal welfare

problems in 1939-40. A suggested subject is "Hemorrhage During Pregnancy and Labor."

4. Encourage attendance at refresher courses.

5. Make a survey of maternal mortality of the State.

6. Encourage obstetrical conferences or consultations with local obstetricians or state obstetrician (latter available on request).

7. Advise with the state obstetrician in the organization and development of the maternity (prenatal and postnatal) clinics throughout the State and to help develop and maintain good maternal care at the clinics.

8. A maternal or infant welfare article in the State Medical Journal each month.

9. A lesson from a death certificate (maternal or infant) in the State Medical Journal each month.

10. To consider the advisability of a law for licensing of maternity homes and hospitals with the idea of improving maternal care.

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF LABORATORIES

Samuel R. Damon, Ph.D., Director

SPECIMENS EXAMINED
AUGUST 1939

Examination for diphtheria bacilli and Vincent's	808
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	1,239
Typhoid cultures (blood, feces and urine) ..	1,747
Examinations for malaria	4,510
Examinations for intestinal parasites	8,018
Serologic tests for syphilis (blood and spinal fluid)	19,404
Darkfield examinations	37
Examinations for gonococci	1,730
Examinations for tubercle bacilli	1,761
Examinations for Negri bodies (microscopic)	66
Water examinations (bacteriologic)	1,123
Milk examinations	2,175
Pneumococcus typing	19
Miscellaneous	1,315
Total specimens	43,952

SEPTEMBER 1939

Examination for diphtheria bacilli and Vincent's	1,585
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	976
Typhoid cultures (blood, feces and urine) ..	1,493
Examinations for malaria	2,885
Examinations for intestinal parasites	4,822
Serologic tests for syphilis (blood and spinal fluid)	21,048
Darkfield examinations	53
Examinations for gonococci	1,667
Examinations for tubercle bacilli	1,629
Examinations for Negri bodies (microscopic)	48
Water examinations (bacteriologic)	893
Milk examinations	2,087
Pneumococcus typing	19
Miscellaneous	903
Total specimens	40,108

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

TULAREMIA

Foreword—Tularemia is usually contracted by handling rabbits which have this disease and the symptoms are those of a local infection with involvement of the adjoining lymph glands. The literature, however, describes an ingestion type of the disease from eating insufficiently cooked rabbits but this type is very rare. The following description of an outbreak of tularemia of the ingestion type in Shelby County was presented to the Shelby County Medical Society by Dr. J. A.

Hines, of Siluria, and Dr. E. F. Sloan, County Health Officer. It represents an unusual outbreak and one in which the diagnosis presented extreme difficulty.

REPORT OF FIVE CASES OF A SEVERE INGESTION
TYPE OF TULAREMIA OCCURRING
IN SHELBY COUNTY

In April of 1939 six cases of tularemia occurred in Shelby County. Five of these cases were of a type and followed a course entirely different to the usual textbook description and the type ordinarily seen.

When first seen, three small colored children living in the same house were critically ill. All had symptoms which indicated a post-infectious encephalitis, with very high temperature, 104 to 106, a membranous pharyngitis, and a stuporous condition from which they could not be aroused. The neck and spine were stiff, Kernig negative, skin and tendon reflexes seemed exaggerated.

A lumbar puncture was done on one of the children and the fluid was under slightly increased pressure. It was perfectly clear and laboratory examination was negative. No equipment was at hand to do an immediate cell count.

This patient, No. 1, a boy, age 4, died on the fourth day of his illness.

Patient No. 2, a boy, age 2, in addition to the symptoms enumerated above, appeared to have an area of consolidation in the right lung. He died on the fifth day of illness.

Patient No. 3, a girl, age 6, died on the twelfth day of illness.

Patient No. 4, a boy, age 8, complained of a sore throat, had a high temperature, but apparently had recovered in about ten days.

Patient No. 5, a girl, age 10, had a longer incubation period than the other children (15 days). She became sick on April 8th. The membrane covering the tonsils suggested diphtheria; the temperature ranged from 103 to 105; pulse and respiration in proportion; mental symptoms developed rapidly; there were periods of restlessness, stupor, complete disorientation. The neck and spine were stiff. The abdomen seemed somewhat tender and the spleen was not palpable. The tonsils became gangrenous and at the termination of her illness had practically sloughed away.

In patient #5, there was no general lymph gland enlargement or rash of any kind. At

the beginning of the sixth week, the patient's mental condition began to improve and a very noticeable symptom at this time was a severe photophobia. There was also a generalized desquamation of the skin. Swabs and cultures for diphtheria in these cases were negative. This child remained desperately ill about six weeks. At about the eighth week she was well on the road to recovery. Her mental condition gradually cleared up completely and temperature came down by lysis.

Patient No. 6, a girl, age 13, developed nodules on all fingers of both hands; the epitrochlear and axillary glands were markedly enlarged. She had no fever when seen and complained of no symptoms. The glands did not suppurate.

At the first visit the history threw no light on these cases.

Subsequently it was found that these children had killed a rabbit, which was evidently sick; the older girl, patient #6, had cleaned and dressed the rabbit but did not eat any of it; and the other children had cooked the rabbit in their playhouse and eaten it. Presumably the rabbit was insufficiently cooked.

Patient No. 6, who cleaned but did not eat the rabbit, had a mild form of the ordinary type of tularemia.

Blood specimens were taken from the three living patients and gave the following results on agglutination with *Bacterium tularensis*:

Patient #4	Dilution	1/40	1/80	1/160	1/320
		4+	4+	2+	1+
Patient #5	Dilution	1/40	1/80	1/160	1/320
	4/12/39	3+	4+	4+	4+
	4/16/39	4+	4+	4+	4+
Patient #6	Dilution	1/40	1/80	1/160	1/320
		4+	4+	4+	4+

Patient No. 5 also showed an agglutination for undulant fever as follows:

Dilution	1/40	1/80	1/160	1/320
4/12/39	3+	4+	4+	4+
4/16/39	2+	4+	3+	2+

All others who had used milk from the same cow as this patient were tested for serum agglutinations for undulant fever and all were negative.

Incubation period in these cases varied from three to fifteen days and the variable time had no influence on the severity of the disease. This was evident from patient #4 who became ill on the fifth or sixth day and

recovered in about ten days. Throats in these cases on first visit were extremely red, with considerable congestion. In those that survived for the periods of three to four days, the tonsil tissue became gangrenous, giving the appearance of a severe diphtheritic throat. There was a slight enlargement of the anterior cervical glands and, as previously stated, in patient #6, the epitrochlear and axillary glands were markedly enlarged. All the patients except No. 6 had stiff necks and spines and exaggerated reflexes on the first visit. Another very noticeable thing was their infrequent change of position and their remaining for several hours in any changed position.

Patient #5 recovered after a very desperate illness. She was given large doses of sulphanilamide during the course of her illness, but it is very doubtful that the drug influenced the course of the disease.

SUMMARY

Six cases of tularemia occurred in a localized epidemic from exposure to an infected rabbit.

One case was of the ordinary type from handling the rabbit and recovered without suppuration of the lymph glands.

Five cases were from ingestion of partially cooked rabbit and resulted in three deaths. One of the recovered cases was desperately ill for eight weeks.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

MATERNAL AND CHILD HEALTH SERVICES IN ALABAMA

1938-1939

The outstanding maternal and child health problems include:

1. Attendant at birth

Approximately 36 per cent of the births in the State are attended by midwives and others not physicians. Seventeen and seven-tenths (17.7) per cent of white mothers receive hospitalization for delivery. About 75% of the colored mothers are attended by midwives and others not physicians. Six per cent of the colored mothers are hospitalized for delivery. About 38% of all births are colored. Few of the births attended in the home by a physician have a graduate nurse to aid in caring for the mother and child, and none of those attended by mid-

wives or other than physicians has a graduate nurse.

This situation presents a real problem because so few of the mothers receive any medical supervision.

2. Interest of laymen in maternity service

There is manifest lack of knowledge or sufficient interest of laymen to seek adequate maternity service. This is frequently attributed to ignorance, indifference and superstition. Usually the layman cannot or does not discriminate between the physician performing obstetrics by "chance" and the one performing such duties by "science." He is not community conscious toward expectant mothers and does not join intelligently in movements to promote safer and saner obstetrics. Because of this indifference and inattention, too many labor cases do not make the necessary and essential arrangements for delivery.

3. Interest of physicians in maternity service

There is apparent lack of appreciation and application of modern obstetric practice by the physicians of the State. The Maternal Mortality Study in Jefferson County, compiled by the local County Medical Society in 1935, contains the following information: "Complications, untoward symptoms, and signs are permitted to exist over varying periods before medical assistance is sought by the patient and conversely similar unfavorable happenings arise because of inadequate attention by the attending physician; pituitrin exacts its toll of life in the hands of the indiscriminate administrator, and its use by the physician who depends upon this agent as a time saving factor; abortions cast one of the greatest and most sinister shadows across the entire field of obstetrics; infections due to carelessness and indifference on the part of physicians was the major cause of the deaths of mothers; deaths from hemorrhage were attributed to failure to diagnose and then too long delay in executing proper treatment and giving prophylactic blood, glucose, or acacia transfusions; toxemias were third in the causation of maternal deaths and the tendency of hospitals merely to provide a department of obstetrics without other responsibilities pertaining thereto is a contribution to higher maternal mortality. Consultations preceding major obstetrical operations are not insisted upon.

Cesarean section continues to be a greatly abused procedure."

Similar conditions prevail more or less throughout the State at large and constitute some of our major problems in maternal welfare.

4. Infant mortality

The infant death rate is 62.2 per 1,000 live births and shows an irregular downward trend. However, the lower death rate has been largely due to reductions in deaths of infants one month and over but less than twelve months. Forty-eight per cent do not live to the end of the first day, 79 per cent the first week, 88.8 per cent the second, and 94.9 per cent the third. Syphilis, congenital debility, congenital malformations, injuries at birth, and premature birth constitute the chief causes of neonatal deaths as reported. Lack of proper care and feeding of infants constitutes serious problems.

5. Communicable diseases and infections

Pneumonia, gastro-intestinal diseases, whooping cough, other respiratory diseases, diphtheria, and tuberculosis constitute problems in infancy and childhood.

6. Nutrition and dietary deficiencies

Lack of proper nutrition continues to be a problem. Comparatively few cases of clinical pellagra are reported but it is felt that the subclinical cases constitute one of the problems of maternity and childhood.

The chief accomplishments toward meeting maternal and child health needs during the year ending June 30, 1939 were:

Promoting 60 maternity clinics, conducting 15 child health conferences, 6 dental clinics; consultation and educational procedures of obstetrician, pediatricians, dentists, nutritionist, and county health personnel; increasing number of public health nursing visits in the interest of maternity service, infant, preschool and school hygiene; strengthening the state staff by adding a pediatrician and a dentist. These activities, among other accomplishments, have stimulated laymen to more fully appreciate the value of adequate maternity service, infant and child health; interested physicians in improving their obstetric and pediatric practice; enlisted the active support and cooperation of pediatricians; provided nurse delivery service for 465 mothers; brought 5,321 expectant mothers under medical supervision; served in getting antisyphilitic treat-

ments administered to hundreds of expectant mothers; caused thousands of persons to have dental corrections made; and encouraged the establishment of hot school lunches.

BUREAU OF VITAL STATISTICS

Leonard V. Phelps, S. B. in P. H., Director

DURATION OF MARRIAGES TERMINATED BY DIVORCE IN ALABAMA

With a total of 3,714 divorces reported to the Bureau of Vital Statistics in 1938, the

cause was stated in 3,680 cases. Of these, 3,540 (96.2 per cent) were granted on grounds of abandonment, adultery, cruelty and drunkenness, taken as single causes, i. e., only one cause was given. Adding to these the divorces granted for any combination of these four causes (as abandonment and drunkenness, drunkenness and cruelty, etc.), we find the group total to be 3,597 (97.7 per cent). Taken singly, abandonment accounted for 1,544 (43.6 per cent) of the 3,540; cruelty, 1,391 (39.3 per cent); adultery, 306 (8.6 per

NUMBER AND PER CENT† OF DIVORCES GRANTED ACCORDING TO CAUSE* AND DURATION OF THE MARRIAGE: ALABAMA, 1938

Duration of Marriage	All Causes (1)		Abandonment* (2)		Adultery* (3)		Cruelty* (4)		Drunkenness* (5)		Cumulative Per Cent				
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	(1)	(2)	(3)	(4)	(5)
Under 1 month	8	0.2	1	0.1	1	0.3	6	0.4	0		0.2	0.1	0.3	0.4	
1 month	10	0.3	0		2	0.7	5	0.4	2	0.7	0.5	0.1	1.0	0.8	0.7
2 months	23	0.6	1	0.1	3	1.0	13	1.0	4	1.4	1.1	0.2	2.0	1.8	2.1
3 months	18	0.5	3	0.2	3	1.0	9	0.7	2	0.7	1.6	0.4	3.0	2.5	2.8
4 months	27	0.8	4	0.2	2	0.7	18	1.3	1	0.4	2.4	0.6	3.7	3.8	3.2
5 months	18	0.5	2	0.1	2	0.7	12	0.9	1	0.4	2.9	0.7	4.4	4.7	3.6
6 months	24	0.7	0		4	1.3	17	1.3	3	1.0	3.6	0.7	5.7	6.0	4.6
7 months	20	0.6	0		2	0.7	15	1.1	2	0.7	4.2	0.7	6.4	7.1	5.3
8 months	24	0.7	1	0.1	2	0.7	21	1.6	0		4.9	0.8	7.1	8.7	5.3
9 months	26	0.8	0		1	0.3	22	1.6	3	1.0	5.7	0.8	7.4	10.3	6.3
10 months	17	0.5	1	0.1	0		12	0.9	3	1.0	6.2	0.9	7.4	11.2	7.3
11 months	23	0.6	1	0.1	5	1.7	14	1.0	1	0.4	6.8	1.0	9.1	12.2	7.7
Under 1 year	238	6.8	14	1.0	27	9.1	164	12.2	22	7.7	6.8	1.0	9.1	12.2	7.7
1 year	122	3.5	0		19	6.4	88	6.5	13	4.6	10.3	1.0	15.5	18.7	12.3
2 years	323	9.2	45	3.1	32	10.8	195	14.5	44	15.4	19.5	4.1	26.3	33.2	27.7
3 years	315	8.9	139	9.6	17	5.7	115	8.5	27	9.4	28.4	13.7	32.0	41.7	37.1
4 years	326	9.3	151	10.4	20	6.7	126	9.4	19	6.6	37.7	24.1	38.7	51.1	43.7
5 years	209	5.9	94	6.5	16	5.4	76	5.6	16	5.6	43.6	30.6	44.1	56.7	49.3
6 years	200	5.7	84	5.8	15	5.1	81	6.0	13	4.5	49.3	36.4	49.2	62.7	53.8
7 years	175	5.0	84	5.8	14	4.7	61	4.5	13	4.5	54.3	42.2	53.9	67.2	58.3
8 years	171	4.8	79	5.4	14	4.7	55	4.1	13	4.5	59.1	47.6	58.6	71.3	62.8
9 years	144	4.1	69	4.8	17	5.7	37	2.7	11	3.9	63.2	52.4	64.3	74.0	66.7
10-14 years	614	17.4	298	20.6	56	18.9	184	13.7	49	17.2	80.6	73.0	83.2	87.7	83.9
15-19 years	317	9.0	164	11.3	25	8.4	89	6.6	24	8.4	89.6	84.3	91.6	94.3	92.3
20-24 years	167	4.7	93	6.4	13	4.4	39	2.9	12	4.2	94.3	90.7	96.0	97.2	96.5
25-29 years	105	3.0	63	4.3	7	2.4	25	1.9	3	1.0	97.3	95.0	98.4	99.1	97.5
30-34 years	56	1.6	35	2.4	4	1.3	9	0.7	7	2.5	98.9	97.4	99.7	99.8	100.0
35-39 years	26	0.7	23	1.6	0		1	0.1	0		99.6	99.0	99.7	99.9	100.0
40-44 years	11	0.3	10	0.7	1	0.3	0		0		99.9	99.7	100.0	99.9	100.0
45-49 years	5	0.1	4	0.3	0		1	0.1	0		100.0	100.0	100.0	100.0	100.0
Unknown	190		95		9		45		13						
TOTAL	3714	100.0	1544	100.0	306	100.0	1391	100.0	299	100.0					

†Based on total number, exclusive of unknowns, in each age group.

*Represents divorces where only one cause was given.

cent) and drunkenness, 299 (8.4 per cent).

The duration of these marriages ranged from less than one month to forty-nine years. Proportionately more divorces were granted from all causes (9.3 per cent) after four years of marriage than at any other time. This was true for abandonment, with 10.4 per cent of the divorces charged to this cause granted after four years of marriage. On grounds of adultery, cruelty and drunkenness, the greatest percentage of divorces were granted after two years of marriage, the per cents being 10.8, 14.5 and 15.4, respectively.

The per cent of divorces from each of the causes in this discussion, terminating marriages of less than one year, were: cruelty, 12.2; adultery, 9.1; drunkenness, 7.7; and abandonment, 1.0. Marriages of more than forty-five years' duration ended in divorce because of abandonment in four cases and cruelty in one. Adultery was given as the cause of divorce terminating one marriage of over forty years' duration. No divorces were granted on grounds of drunkenness after thirty-five years of marriage. Cruelty terminated approximately one-half of the marriages ending in divorce within 4 years from the date of marriage; drunkenness, 5 years; adultery, 6 years and abandonment, 9 years.

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E., Director

MALARIA IN RELATIONSHIP TO FARM FISH PONDS

This space, in the October 1939 issue, was devoted to discussing minor impounded waters. Incidentally, the discussion touched upon the subject of fish culture in its relationship to malaria control and quoted excerpts from a bulletin entitled "Management of Farm Fish Ponds" recently released at Auburn in the interest of improving Alabama farm income.

The records of the State Department of Health on impounded water show an increasing popularity of the farm fish pond. As a whole, there is also an increasing desire and willingness among the pond owners to construct and maintain their ponds in accordance with the "Regulations Governing the Impounding of Waters"; that is, in such

a way as to preserve the health of their families, tenants, or neighbors. This may be attributed to a better understanding of the natural phenomena of the biologic world which must be dealt with one way or another. The recommended methods of culture for fish most adaptable for this purpose have been found to be substantially in accord with the regulations of the State Board of Health promulgated for the prevention of man-made malaria hazards. In other words, a farm fish pond properly managed to obtain maximum fish production in accordance with the Auburn bulletin will at the same time be very largely managed to prevent, through naturalistic measures, the production of anopheles mosquitoes of the *quadrifasciatus* species.

In the light of a long range program designed for the elimination of *Anopheles quadrifasciatus* breeding places the construction of fish ponds is of major concern. The health official can profit by having an accurate knowledge of the environmental factors of fish production as well as of mosquito production.

The successful fish pond apparently has but few restrictions upon it as imposed by the physical surroundings affecting its location. Some are located on small streams where a continuous supply of surface water, spring water, or overflowing artesian well water is provided. Others are being built on high land in such position as to be fed by the drainage from pasture or woodland areas. It would appear that many kinds of water, or at least water which initially contains many different impurities, are being used for this purpose. The desired food elements may be added to the pond in the form of fertilizer. The farm fish pond then is almost as variable as to its location as is the plow at the end of the season.

Whether the average pond owner gives needed intelligent consideration to the location of his pond may be problematical. Waste lands, such as wet pasture areas where ground water rises above the surface and stands, or small creek bottoms or other land areas which yield little or no return for their keep, and old unproductive ponds might be converted into productive fish ponds. Many such areas now producing mosquitoes might, through proper planning and care, be changed from mosquito-breeding foci into remunerative enterprises. How-

ever, not all such areas may prove to be producing *Anopheles quadrimaculatus*. A record of malaria cases or identification of *Anopheles quadrimaculatus* would determine the relationship of such areas to malaria transmission.

Some thought could well be given by health officials in this connection to persons proposing to build ponds. Careful guidance of the owner by the health officer in cooperation with the Extension Service of Auburn should certainly lessen the malaria hazard of impoundage and would as a usual thing be appreciated by the owner, especially if he can be shown some of the pitfalls awaiting his unguided efforts. The worst explosion of malaria in years in Conecuh County occurred this season as the result of the construction of a pond with subsequent inadequate mosquito control.

O. G. Q.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN
ALABAMA
1939

	Aug.	Sept.	Estimated Expectancy Sept.
Typhoid	69	36	95
Typhus	87	62	38
Malaria	1047	1698	1213
Smallpox	0	1	2
Measles	29	10	26
Scarlet fever	76	128	106
Whooping cough	130	117	77
Diphtheria	70	183	178
Influenza	61	77	33
Mumps	24	10	19
Poliomyelitis	4	3	10
Encephalitis	2	3	3
Chickenpox	5	7	7
Tetanus	5	4	5
Tuberculosis	214	284	250
Pellagra	29	32	32
Meningitis	5	2	5
Pneumonia	66	78	65
Syphilis	1308	1399	348
Chancroid	11	5	5
Gonorrhea	346	397	200
Ophthalmia neonatorum	1	0	1
Trachoma	0	0	0
Tularemia	1	1	0
Undulant fever	9	6	2
Dengue	0	0	0
Amebic dysentery	0	0	0
Cancer	163	166	0
Rabies—Human cases	0	1	0
Positive animal heads	15	15	...

*As reported by physicians and including deaths not reported as cases.
The Estimated Expectancy represents the median incidence of the past nine years. With the venereal diseases, clinic cases were not included prior to 1936.

Medical News

(Secretaries of county medical societies and other physicians will confer a favor by sending for this section of the Journal items of news relating to society activities.)

Death of Dr. J. U. Ray at his home in Woodstock on October 5 removed from the roll of the Association one of its best known personalities. Elected to the treasurership of the Association in 1915, Dr. Ray served in that capacity to the time of his demise—a record of twenty-four years of unbroken service. Much could be said of his faithfulness and stewardship but the words could not enhance the glory that attends a duty well performed. Dr. Ray will be missed at each succeeding annual session of the Association.

* * *

When the Southern Medical Association meets in Memphis November 21-24, most of the scientific sessions, the technical and scientific exhibits, and the registration will be found in the Municipal Auditorium within comfortable walking distance of hotels.

The program will follow in general the plan of recent meetings. Tuesday will be “Memphis Day,” a program of short clinical presentations by physicians of the host city. Beginning Wednesday, the nineteen sections of the Association and the three conjoint meetings will convene. The programs of the section and general meetings are complete and promise generous and stimulating discussions of many phases of medical progress.

* * *

The annual scientific meeting of the Georgia Pediatric Society will be held in Atlanta, Ga., on Dec. 16, 1939. A luncheon at 12:45 P. M. will precede the afternoon session, which will begin at 2 P. M. The night session will meet at 7 P. M.

Speakers include Dr. George M. Lyon, Pediatrician to the Memorial Hospital and St. Mary’s Hospital, Huntington, W. Va. Dr. Lyon will talk in the afternoon on “Meningococcus Meningitis and Its Management” and in the evening on “Purulent Meningitis Due to Causes Other Than the Meningococcus.” Dr. Harry Bakwin, Associate Professor of Pediatrics at New York University, has accepted an invitation to give two lectures, but at present has not stated the titles

of his papers. Dr. Charles F. McKhann, Associate Professor of Pediatrics at the Harvard Medical School and the Harvard School of Public Health will talk in the afternoon session on "Poliomyelitis" and at the night session on "The Progress in the Control of Respiratory Infections."

Officers of the Georgia Pediatric Society are Dr. L. H. Muse, President; Dr. R. C. McGahee, President-Elect; Dr. Leila Bonner, Vice-President and Dr. Don F. Cathcart, Secretary and Treasurer. The Scientific Committee is composed of Dr. Harry Lang, Dr. J. Yampolsky and Dr. Wm. W. Anderson, Chairman.

Members of the medical profession are invited.

* * *

All members of the Association are cordially invited to attend the annual meeting of the Radiological Society of North America which will be held in Atlanta, Georgia, December 11-15, 1939. This annual meeting is coming to Atlanta for the first time and represents in its membership the leading radiologists of the United States and Canada. There is no expense to members of the Association for registration.

Besides the scientific program, both the commercial and scientific exhibits will be well worth attention of any one interested in radiology. The Georgia Radiological Society is interested in having as large attendance as possible and we know that any one interested in radiology will be well repaid for attending this convention.

Book Abstracts and Reviews

Immunity. Principles and Application in Medicine and Public Health. 5th Edition of "Resistance to Infectious Diseases." By Hans Zinsser, M. D., Professor of Bacteriology and Immunology, Harvard Medical School; John F. Enders, Ph. D., Assistant Professor of Bacteriology and Immunology, Harvard Medical School, and LeRoy D. Fothergill, M. D., Assistant Professor of Bacteriology and Immunology and Associate in Pediatrics, Harvard Medical School. Cloth. Pp. 801. Price, \$6.50. New York: The Macmillan Co., 1939.

Since the writing of the first edition of this book in 1914 the advances in the field of immunology have been nothing less than startling and the study of this subject permeates every branch of medical learning. Of particular importance is its bearing on public health and preventive medicine though it is of hardly less significance in diagnosis and therapy. The present edition is divided into two sections and has been completely revised. Section 1 is devoted to principles and theory and is largely new as the material of this nature found in the earlier editions is now of historical interest only. In Section 2 special immunologic problems in individual in-

fections are discussed. This section includes the virus, rickettsia, protozoan diseases and the bacterial infections.

The book largely breaks down the barrier that has long existed between the science of immunology and the practical application of this science in the daily routine of the physician.

The text is written in the well-known style of the senior author with a vigorous clarity and distinct literary quality seldom equalled in scientific literature. At no time is the reader left in doubt as to the opinion of the authors regarding any matter; this is not to imply that the writers "know all the answers" though, and in many instances where an expression of opinion would be premature the facts have been carefully presented, though ultimate judgment is held in abeyance. The index is complete and a bibliography is given at the end of each chapter.

As an authoritative source of information on this particular subject this book may be enthusiastically recommended.

S. R. D.

Menstrual Disorders. By C. Frederic Fluhmann, B. A., M. D., C. M., Associate Professor of Obstetrics and Gynecology, Stanford University School of Medicine, San Francisco, California; Assistant Visiting Obstetrician and Gynecologist to Lane and Stanford University Hospital; Fellow of the American Gynecological Society. Cloth. Pp. 329, with 119 illustrations. Price, \$5.00. Philadelphia and London: W. B. Saunders Company, 1939.

A scrutiny of medical literature will convince the reader of Doctor Fluhmann's originality in the field of gynecological research. Much of this original work is included in his book. The field of gynecologic endocrinology is so full of confusion and conjecture that the task of clarifying it is an ambitious one in which the author has been able to accomplish moderate success.

The first half of the book is devoted entirely to the subject of physiology of menstruation. Later chapters illustrate the application of these physiologic processes to actual therapy. The use of male hormones in menstrual irregularities is mentioned briefly. The treatment of the menopause is so well presented that this alone is worth his price of the book.

Gynecologists and general practitioners with a particular interest in menstrual disorders will gain a clear concept of the present knowledge of this complicated subject and find much of practical value.

P. B.

Diseases of the Skin. By Richard L. Sutton, M. D., Sc. D., LL. D., F. R. S. (Edin.), Professor of Dermatology, University of Kansas School of Medicine; and Richard L. Sutton, Jr., A. M., M. D., L. R. C. P. (Edin.), Associate in Dermatology, University of Kansas School of Medicine. Cloth. Pp. 1,549, with 1,452 illustrations including 21 color plates. Price, \$15.00. St. Louis: The C. V. Mosby Company, 1939.

A comprehensive volume on diseases of the skin with over 1,500 pages and containing almost one illustration per page. The illustrations are excellent. The subject matter covers the subject thoroughly. The description of each disease is almost in outline form, following a definite plan, synonyms, symptoms, etiology and pathology, diagnosis, prognosis and treatment. The illustrations show not only the skin condition but the

microscopic appearance of bacteria and fungi, various animal parasites, and microscopic sections of skin in various diseases. Prescriptions are given in complete form. Many illustrations are in color.

In the new edition the chapter on mycotic infections has been considerably expanded, the newer attitude toward sero-diagnostic tests has been included, the pathologic fungi are described and illustrated, and the chapter on leprosy has been revised. There is much new material on the subject of contact dermatitis and occupational dermatoses and drug eczemas.

Despite its length, this book is for rapid reference and is written as a practical guide.

Much of the material is original yet the authors have kept abreast of the work of others in this field. Literally thousands of references appear in the bibliography—7,000 more than in the 9th edition. This is certain proof that the authors have kept the book abreast of the times.

C. K. W.

Treatment in General Practice. The Management of Some Major Disorders. In two volumes. Cloth. Price, \$7.50 for the two. Boston: Little, Brown and Company, 1939.

The two volumes present in clear dogmatic fashion a panorama of current therapeutics as carried out in the British Isles. George W. Bray has written the chapter on asthma, Sir John Fraser the one on empyema, Sir E. Farquhar Buzzard that on cerebral hemorrhage and the preface is written by Reginald Fitz. Eighty-four distinct entities are discussed by almost as many authors. The English seem to put more stress on such details as rest, position, fresh air, food and bowel elimination than we do. They certainly use more drugs and unfortunately they refer to many of them by trade names rather than the chemical names. One misses some important drugs such as sulfapyridine in pneumonia and aminophyllin in status asthmaticus, but, on the whole, British therapeutics compare quite favorably with our own. As interesting reading to see what others do and as a reference work for daily use, these two volumes should prove most valuable to internists and general practitioners as well.

C. K. W.

Operative Orthopedics. By Willis C. Campbell, M. D., Memphis, Tennessee. Cloth. Pp. 1,145, with 845 illustrations. Price, \$12.50. St. Louis: The C. V. Mosby Company, 1939.

This work gives the impression of having been written primarily for the specialist in orthopedic surgery. However, there is sufficient material of a general surgical nature to cause the book to be of valuable aid to the man in general surgery. The chapters on physiology and pathology as related to bone and cartilage repair, apparatus used, surgical technic and surgical approaches are particularly worth while from a general surgical point of view.

There would seem to be a definite place for such a work even for the perusal of the orthopedic surgeon. Doctor Campbell devotes about 140 pages to recent dislocations and fractures and an

additional 140 pages to delayed union and non-union in fractures. These subjects in particular are always of importance to the person taking care of even an occasional fracture. There is a chapter on tumors of bones, joints, and soft tissues, the only criticism of which could be its brevity. The entire book is well illustrated and can be considered thoroughly up to date.

J. L. B.

Clinical Diagnosis by Laboratory Methods. By James Campbell Todd, Ph. D., M. D., Late Professor of Clinical Pathology, University of Colorado, School of Medicine; and Arthur Hawley Sanford, A. M., M. D., Professor of Clinical Pathology, University of Minnesota (The Mayo Foundation); Head of Division on Clinical Laboratories, Mayo Clinic. Ninth edition, thoroughly revised. Cloth. Pp. 841, with 368 illustrations, 29 in colors. Price, \$6.00. Philadelphia and London: W. B. Saunders Company, 1939.

Here is a book on laboratory technique that has stood the test of time. Accepted as a standard text and reference book since 1908, it now appears in its ninth edition. It is complete and practical, brief but inclusive.

The new edition contains a classification of the anemias by Ottenberg that appears more practical than the older one by Vogel. There is a new qualitative method for determination of chlorides in urine and one for albumin in urine. There are sections on corpuscular size and hemoglobin content, a new description of hematopoiesis, Westergreen's method for sedimentation rates is included because of its simplicity and its general use. Bodansky's method for determination of serum phosphate and phosphatase has taken the place of the method of Kutner and Lichtenstein and a method for determination of inorganic sulfate in serum and in the urine is given. The hippuric acid test has been added to the tests for liver function. The methods for determining lipase in serum, cevitamic acid in blood and urine, sulfanilamide in blood and acetylsulfanilamide in urine are presented. In the description of the Widal the H & O antigens are discussed. The various serologic tests for the diagnosis of syphilis are outlined in accordance with the author's present routine and in the discussion of interpretation the reports of the Committee appointed by the Surgeon General to evaluate sero-diagnostic procedures are included. Kracke's blood culture medium has been added to the list of culture media as have also been liver infusion agar for culture of *Brucella abortus*, egg yolk mixture for growing tubercle bacilli and eosin-methylene blue agar in differentiation of *E. coli* from *A. aerogenes*.

M. C.—C. K. W.

Epidemic Encephalitis. Etiology, Epidemiology and Treatment. Third Report by the Matheson Commission. Willard C. Rappleye, Chairman. Columbia University Press, Morningside Heights, New York.

The Matheson Commission was established through the generosity of Doctor William J. Matheson in the spring of 1927. The work of the first two years consisted in collecting the published data on the epidemiology, etiology and treatment of epidemic encephalitis. The results of this study were published in the "First Report" in 1929. A second, shorter report of a similar nature was published in 1932.

The "Third Report" has been prepared on much the same lines as the first two reports. The long continued follow-up of a large number of patients suffering from this disease or other conditions closely simulating it has provided a volume of clinical evidence and experience that has proven of greatest value in differential diagnosis and in the appraisal of methods of treatment. The bibliography has been carried on from the beginning of 1930 through the first half of 1937, and many of the more important references in the second half of 1937 and the first half of 1938 have been included. In the laboratory program several viruses have been isolated and vaccines have been produced and tried in treatment.

It was the idea of Doctor Matheson, strongly seconded by the Commission, that an important function was to publish from time to time surveys covering as completely as possible the work done all over the world in these three essential factors in encephalitis. Reports such as these are valuable in the laboratory and clinical work that Doctor Matheson and the Commission planned. They are also useful reference books for others working on this highly complicated disease, which is new to the physicians of this generation.

The contents include a summary on investigations as to the etiology of epidemic encephalitis, St. Louis type encephalitis, Japanese B encephalitis, human encephalitis caused by the viruses of equine encephalitis, postvaccinal encephalitis, other forms of encephalitis and allied diseases; a summary of the various forms of treatment of encephalitis and the epidemiology of encephalitis lethargica, the St. Louis type and the Japanese type. All this occupies but half of the book. The remainder is devoted to a very extensive bibliography.

C. K. W.

Medical Jurisprudence and Toxicology. By William D. McNally, A. B., M. D., Assistant Professor of Medicine and Lecturer in Toxicology, Rush Medical College, University of Chicago; Attending Toxicologist, Presbyterian Hospital; Attending Staff, St. Joseph's Hospital, Chicago, Ill. Cloth. Pp. 355, illustrated. Price, \$3.75. Philadelphia and London: W. B. Saunders Company, 1939.

This is a small volume, a brief and concise textbook of medical jurisprudence and toxicology. It meets the requirements of the medical examiners, pathologists and general practitioners who want a comprehensive understanding of these subjects. This book is of equal value to the medicolegal specialist or to the physician doing general practice. Its value to the former lies in the many useful medicolegal and toxicology tests briefly and accurately described, and, in addition, he will find listed after each drug the postmortem appearances of the organs in case of poisoning. The latter will find the chapters on toxicology very helpful in cases of poisoning for here are listed the symptoms and treatment of all common poisons.

The author has intentionally avoided details, and the entire book is well organized and written in clear, accurate and easily understandable language. About one-third of the book deals with medical jurisprudence and two-thirds with toxicology. The author's first chapter informs the physician what is required of him when he is

called in as a witness in a medicolegal case. This is followed by several chapters containing many useful medicolegal tests. The importance of these tests is emphasized, especially in the analysis of blood stains, seminal stains, and the identification of hair and cloth. These chapters are up to date and the most modern methods of analysis are described.

It is impossible in a text of this size to give a detailed description of all drugs and chemicals that are found in suicidal, homicidal and accidental poisoning. However, the subject is completely covered in a brief, well organized and accurate manner. The author begins his discussions on this subject by a general explanation of how drugs are absorbed, classified and examined. He continues with an excellent suggestion on how to diagnose poisonings and what is required before one should say definitely that a case is a case of poisoning.

He has classified practically all the common poisons, and under each drug is listed its characteristics, the symptoms occurring from poisoning, and this followed by a paragraph discussing treatments and postmortem findings.

This is one of the most useful texts on medical jurisprudence and toxicology that has been published in recent years.

C. R. L.

Stedman's Practical Medical Dictionary. By Thomas Lathrop Stedman, A. M., M. D., Editor of the Twentieth Century Practice of Medicine; of the Reference Handbook of the Medical Sciences; and formerly Editor of the Medical Record; and Stanley Thomas Garber, B. S., M. D. Fourteenth edition, revised. Cloth. Pp. 1,300, with illustrations and plates. Price, \$7.50 with thumb index; \$7.00 without index. Baltimore: The Williams and Wilkins Company, 1939.

Members of the profession who read and write, as well as those who edit, have need of a complete and up-to-date medical dictionary. The need is met in Stedman's Practical Medical Dictionary, now available in its fourteenth edition, revised to include many new titles and subtitles. The book is authoritative and contains more than 15,000 modern medical, surgical, pharmaceutical, biologic, dental and other scientific terms. As special features it has ethymologic and orthographic rules, and Greek roots in italic Roman type. Illustrations are excellent.

Every physician might well "give Stedman the desk-test."

D. L. C.

Report of the International Health Division of the Rockefeller Foundation for 1938. Paper. Pp. 233, illustrated.

Every year, in the late spring or early summer, the State Department of Health reveals through the press the names of that year's group of foreign health administrators, sanitarians and other health workers who will soon spend periods of varying length in Alabama studying this State's public health machinery and acquainting themselves with the peculiar health problems of this section. Then, as these men arrive in Montgomery, the newspapers publish articles about them, their impressions of American and Alabama health conditions and disease-fighting agencies, and health conditions in their native countries.

These newspaper stories invariably point out that these men have been studying in American colleges and universities under fellowship grants from the International Health Division of the Rockefeller Foundation.

This training of selected foreign health workers in modern public health procedures is an important phase of the health-promotion activities made possible by the Rockefeller philanthropies. In this part of the country at least, it is the most widely publicized. It is, however, only one of many battlefields on which the International Health Division is waging relentless warfare against the enemies of health. The Division's recently published annual report, covering in some detail its activities during 1938, emphasizes the vastness of its effort. It also points out, modestly enough, some of the fruits of that effort.

Yellow fever control in Brazil, influenza research in New York, epidemiologic studies in Budapest, tuberculosis case-findings in Pennsylvania, Alabama and Tennessee, syphilis studies in Jamaica, rabies investigations in Montgomery, hookworm studies in Egypt, Rocky Mountain spotted fever investigations in Alberta and British Columbia, scarlet fever work in Rumania, malaria research here and there—all these and many other activities combined to form the 1938 program of the world-wide army of health enthusiasts working under the gonfalon of the International Health Division of the Rockefeller Foundation.

Such a program cannot be carried on without large expenditures. It is not surprising, therefore, that the "Table of Expenditures for Public Health Work for the Years 1913-1938, Inclusive, Covering All Activities," shows that last year's outlay totaled \$2,262,382.63 and that total expenditures from July 1, 1913, through 1938 amounted to \$65,890,538.46. It is, or should be, of interest to Alabamians to know that a considerable portion of this sum was made available for various health promotion activities in this State.

J. M. G.

The Vitamins. A Symposium Arranged Under the Auspices of the Council on Pharmacy and Chemistry and the Council on Foods of the American Medical Association. Imitation leather. Pp. 637. Price, \$1.50, postpaid. Chicago: American Medical Association, 1939.

So much information has become available about the vitamins that it is difficult even for experts to keep up with the literature. The present volume is a welcome compendium of authoritative information about these accessory food factors. There are discussions of the chemistry, physiology, pathology, pharmacology and therapeutics, methods of assay, food sources and human requirements of each of the important vitamins. The volume is composed of thirty-one chapters written by experts, and is published under the auspices of the Council on Pharmacy and Chemistry and the Council on Foods of the American Medical Association.

This book should prove to be an indispensable volume for the library of every physician.

A. M. A.

Clinical Use of Sulfanilamide and Sulfapyridine and Allied Compounds. By Perrin H. Long, M. D., Associate Professor of Medicine, The School of Medicine, The Johns Hopkins University; Associate Physician, The Johns Hopkins Hospital; Lecturer in Epidemiology, The School of Hygiene and Public Health, The Johns Hopkins University, and Eleanor A. Bliss, Sc. D., Fellow in Medicine, The School of Medicine, The Johns Hopkins University. The Macmillan Medical Monographs. Cloth. Pp. 319. Price, \$3.50. New York: The Macmillan Co., 1939.

The eight chapters of this book cover the following subjects:

I. The Historical Aspects of Sulfanilamide Therapy.

II. The Chemotherapy of Experimental Bacterial Infections.

III. Experimental Toxicity and Comparative Pharmacology of Sulfanilamide and Allied Compounds.

IV. The Mode of Action of Sulfanilamide and Its Derivatives.

V. The Clinical Use of Sulfanilamide.

VI. The Clinical Use of Sulfapyridine, the Sulfanilyl Sulfanilamides and Benzylsulfanilamide.

VII. The Clinical Use of Prontosil and Neoprontosil.

VIII. The Clinical Toxic Manifestations of Sulfanilamide and its Derivatives.

The authors of this work have had an extensive experience in the experimental and clinical use of sulfanilamide, sulfapyridine, neoprontosil and related compounds. In terms of years the period has been brief since Foerster reported in 1933 on the successful treatment of a case of staphylococcus sepsis with Prontosil but in terms of significance the period has been called "epochal in the history of medicine" due to advances in the science of chemotherapy. During the intervening years "we have witnessed the conquering of streptococcal, meningococcal, gonococcal, pneumococcal, and many other types of infections by means of chemotherapy." Because of the already voluminous and ever increasing literature concerning the effects of these compounds in the control of bacterial infections this book was written. In reality it is a statement of personal experience and a review of the literature.

It is a truly fascinating story which unfolds as one reads this book and it should be read widely. At the end, however, one is impressed with the fact that here again clinical application has far outstripped knowledge of the fundamental mechanisms involved. As yet little is settled beyond the question of the effectiveness of the compounds discussed—a point which will be of no great moment to the medical practitioner who is generally more concerned with the results obtained than the reasons why they are obtained.

Each type and form of disease in which these new chemotherapeutic agents are of therapeutic value is discussed in detail as well as the methods and duration of treatment. Tables give the systems of dosage in a convenient form. A survey of the different types of toxic manifestations resulting from the use of these compounds is given together with directions for their prevention.

Bibliographies accompany each chapter.

S. R. D.

Publications of the American Association for the Advancement of Science No. 6. Syphilis. Presented by the Section of the Medical Sciences. Edited by Forest Ray Moulton. Cloth. Pp. 193. Price, \$2.50. Lancaster, Pa.: The Science Press, 1938.

This symposium on syphilis by the American Association for the Advancement of Science is a very excellent one since it is illuminating, quite interesting and most informative.

As would be expected, the origin of syphilis is the first subject discussed. It must be said that there still exists more argument in favor of the American origin of syphilis.

Yaws and bejel are both described and discussed. Then many of the important concepts and achievements in the problems of syphilis infection and control are reviewed, discussed and at times conclusions are drawn.

This symposium on syphilis is well worth the time spent in reading it. Every physician who treats venereal diseases would find it profitable to include this book in his "must" reading.

W. H. Y. S.

Pathogenic Microorganisms. By William Hallock Park, M. D., Late Professor of Bacteriology and Hygiene, New York University College of Medicine, and Director Emeritus of the Bureau of Laboratories of the Department of Health, New York City; and Anna Wessels Williams, M. D., Former Assistant Director of the Bureau of Laboratories of the Department of Health, New York City. Eleventh edition, enlarged and revised. Cloth. Pp. 1,056, with 247 engravings and 13 full page plates. Price, \$8.00. Philadelphia: Lea and Febiger, 1939.

This, the eleventh edition of a classic text, will long remain a monument to its eminent editor, William Hallock Park, who died in New York City on April 6, 1939.

Originally written in 1899 in an attempt to bring to the physician, medical student and laboratory worker the practical knowledge of bacteriology and immunology then available, this aim has never been lost sight of in any of the ten succeeding editions. However, each republication has treated the subject matter more comprehensively and in this edition special effort has been made to bring up to date the information now available on the etiology and diagnosis of the infectious diseases, as well as their immunology, prophylaxis and therapy.

The sections dealing with the pathogenic yeasts and molds, the protozoa and the filterable viruses have been completely revised and rewritten because of the increasingly important role played by these infectious agents in human disease.

The present edition is further improved by the inclusion of chapters on technique, the pneumococcus, B. C. G. vaccination, tuberculosis, rickettsia and the streptococci written by authors who have had special experience in these fields.

The make-up, arrangement and printing of the book are excellent and it can be unquestionably recommended as meriting a place in the working library of anyone interested in the subject matter.

S. R. D.

Truth About Medicines

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following devices have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Amsco Oscillometer.—This device is devised primarily to provide a visual method for determining oscillometric indexes and blood pressure by measurement of the pulsations transmitted from a compressed artery to a manometer; the instrument may also be used as a simple anaeroid manometer to record blood pressures found by auscultation of arterial sounds. The firm recommends it for diagnosis of vasomotor disturbances, thrombo-angiitis obliterans, surgical shock, gangrenous conditions, Buerger's disease and the depth of anesthesia. The instrument was investigated by the Council. The Council found it to be a sturdy, handy instrument the chief value of which lies in the determination of (1) oscillometric indexes, (2) the systolic and diastolic arterial blood pressures when used as a simple anaeroid manometer with auscultation of the sounds and (3) the systolic pressure by the visual technic. American Medical Specialties Company, New York.

Cooley Compress.—A heating pad intended to be used in applying hot wet compresses over limited areas of the body. A complete unit consists of electric heating pads of rubberized cloth (two 11 by 11 inches and one 7 by 7 inches), a control box to regulate current from any source of alternating or direct current to the wire coils in the pads, cloth compresses with thermometer sleeves (six 7 by 7 inches and twelve 11 by 11 inches) and special thermometers to be inserted between the pads (two of 12 inches and one of 6 inches). The unit was tested clinically in certain dermatologic and normal control cases. It was concluded that the pad might be used as a means of warming wet dressings. The heat can be regulated by means of the thermometer, since the bulb rests at the hottest point of the pad when inserted in the sleeve. Hewitt Electric and Manufacturing Company, Somerville, Mass.

Burdick Ultriplex Unit SWD-70.—This unit is recommended for medical and surgical use in the office or hospital. It is similar to the Council-accepted Triplex Short Wave

NEXT ANNUAL MEETING
BIRMINGHAM
APRIL 16, 17, 18, 1940

Unit SWD-10 (*The Journal*, Dec. 12, 1936) except for the substitution of a shielded ultra-short wave 6 meter circuit in place of the 15 meter short wave circuit, and 80 meter instead of a 70 meter long wave circuit, together with the necessary rearrangement of switches and wiring. Regarding physical performance, the Council confirmed the measurements submitted by the firm. The unit was operated clinically for the Council over a period of several months and found to render satisfactory service. The Burdick Corporation, Milton, Wis. (J. A. M. A., Sept. 16, 1939, p. 1129)

Liebel-Flarsheim SW-221 Short Wave Generator.—This generator is recommended for medical and minor surgical diathermy. Standard equipment includes inductance cable, cuff and pad electrodes and a treatment drum on a counterbalanced, adjustable arm. Various surgical accessories for coagulation and desiccation are also available. A filter is employed in the supply line for the purpose of minimizing line feed-back for possible radio interference. Tests were submitted by the firm to support claims made for the heating efficacy of the unit when applied to the human thigh. In addition, the firm submitted evidence to support the use of this unit in producing hyperpyrexia and for orificial heating. The unit was investigated in a clinic acceptable to the Council and it was reported to give satisfactory service. The Liebel-Flarsheim Company, Cincinnati, Ohio.

Westinghouse Thin Window Lamp.—This lamp provides mercury arc radiation of an essentially monochromatic wavelength of 2,537 angstroms for limited use by the physician as a bactericidal and fungicidal agent. There is also thermal radiation from a hot cathode. The unit is compact, consisting of a Thin Window Lamp, shield and transformer, all of which are demountable from the stand for portable use. Five qualified physicians investigated the lamp for the Council. Clinical tests on normal skin reveals that even prolonged exposures (fifteen minutes) with the Thin Window Lamp failed to produce vesiculation. Persistent erythema, followed by exfoliation, was noted in all cases in which the prolonged exposures were given. Of the many dermatologic conditions that were treated with varying doses, none showed any irritation. The lamp was used successfully for the treatment of furuncles,

carbuncles, chronic granulating surfaces and various localized skin diseases. It is not to be assumed, however, that the lamp may be substituted for x-rays, other forms of ultraviolet generators or conventional topical remedies for the treatment of many dermatologic conditions. The claim that the lamp is a useful aid in controlling pyogenic, fungous and parasitic skin infections, indolent ulcers and wounds cannot be wholly substantiated according to some clinical experience. There is no doubt that in vitro, pyogenic and fungous organisms may be attenuated or destroyed, but in vivo the beneficial effects of ultraviolet radiation emitted by the Thin Window Lamp on disease caused by these organisms are not so striking. The lamp has a good margin of safety in application. Westinghouse X-Ray Company, Inc., Long Island City, N. Y. (J. A. M. A., Sept. 23, 1939, p. 1228)

Holland-Rantos Fever Bag.—The Holland-Rantos Fever Bag is intended to prevent heat loss from patients whose temperature has been elevated by various methods. It is 76 by 36 inches in size, weighs about 25 pounds, and is filled with kapok between a rubber-calendered, waterproof and sterilizable lining and a waterproof drill outer covering. The top of the bag may be raised in a tent-like fashion by a bar passed through rings and suspended from the bed, thus permitting the patient some mobility. The unit was investigated clinically for the Council. The induction period is a little longer than necessary when the bag is used with short wave diathermy. In the opinion of the Council, this type of slide fastener bag is as satisfactory as any type of fever bag in affording a means of insulation, but it is still inferior to acceptable cabinets now on the market recommended for the same use. The device may be used for maintaining the temperature of patients whose fever has been induced by hot baths or by other means when the temperature is not raised above 104 F. and when the length of treatment is not over four hours. The Holland-Rantos Company, Inc., New York.

Westinghouse Model 250 Short Wave Endotherm.—This unit is intended for routine office practice in medical and minor surgical procedures. Cuff, pad and cable electrodes and felt spacers are part of the standard equipment. Surgical accessories and orificial electrodes are also available. Tests sub-

mitted by the firm were sufficient to substantiate in general the claims made for the physical performance of the apparatus. The unit was investigated in a clinic, where it was found to operate satisfactorily and to provide ample heating for routine clinical work. Westinghouse X-Ray Company, Inc., Long Island City, N. Y. (J. A. M. A., Sept. 30, 1939, p. 1326)

PROPAGANDA FOR REFORM

Betts Charts Not Acceptable.—The Council on Physical Therapy reports that, according to the manufacturer, the Keystone View Co., Meadville, Pa., the purpose of the Betts Charts is to provide a simple quick and conclusive means for a nurse, doctor, psychologist, reading supervisor, teacher or principal to test school children: (1) for psychologic maturity before entering school (called Reading Readiness Tests in school language); (2) for visual skill (testing automobile drivers, for example); and (3) for testing so-called oculomotor and perception habits. The equipment consists of (1) an ophthalmic telebinocular, (2) ten visual sensation and perception slides, (3) five maturation cards and (4) ten oculomotor and perception habit slides. The instruments and charts were investigated by a number of consultants and the report submitted to the Council was adopted and sent to the firm in May, 1937. In reply the firm asked for further opportunity to gather evidence and also asked the consultants to investigate the charts further. The consultant's further report considers only the essential question of whether the Betts Charts offer advantages over other methods of testing the eyes of children, such that the Council is justified in accepting them. It has been the experience of the consultants that many children have been referred to them because of unsatisfactory tests with the Betts Charts who showed no anomalies of vision, muscle balance or fusion which would be considered a factor in reading disability. The number of such cases has increased in recent years. This experience by the consultants has received additional support by the results of a recent investigation in a group of schools conducted, in part, at the instigation of the consultants. Results with the Betts Charts indicated that 75 per cent of the children required attention to the eyes, a figure approximately twice that obtained with the

standard series of tests. No satisfactory evidence has been submitted that differences in vision obtained with the two eyes used simultaneously in the stereoscope as compared with that of each eye tested separately or between the vision of children tested for near and distant vision are of any practical importance. In the opinion of the consultants, the tests for astigmatism and other refractive errors are not exact and lend themselves to misleading diagnoses. It is the opinion of the Council's consultants that the results of tests with the Betts Charts applied to school children are misleading by greatly overestimating the number of children in whom ocular anomalies are a factor in reading disability and hence by allowing other equally important factors to be overlooked. It is admitted that any series of tests may be misleading in individual cases, but it is the opinion of our consultants that this objection applies in the case of the Betts Charts to so large a number of observations that they cannot recommend acceptance of the material submitted. In view of the report of the Consultants on Ophthalmology, the Council on Physical Therapy voted not to include the Betts Charts in its list of accepted devices. (J. A. M. A., Sept. 2, 1939, p. 937)

ELECTROCARDIOGRAM IS IMPORTANT AID IN ACUTE PERICARDITIS DIAGNOSIS

The electrocardiogram is important in the diagnosis of acute pericarditis (inflammation of the walls of the sac in which the heart is enclosed), Joseph B. Vander Veer, M. D., and Robert F. Norris, M. D., Philadelphia, declare in *The Journal of the American Medical Association* for Oct. 14.

The electrocardiogram is a graphic tracing of the electric current by the contraction of the heart muscle. In emphasizing its value in the diagnosis of pericarditis the authors point out that the latter usually is a complication of a more easily recognized disease and because of this it is frequently overlooked.

"Like any laboratory aid," the authors say, "the electrocardiogram is of greatest value when it gives positive evidence. Negative evidence must always be considered with caution. The electrocardiogram in acute pericarditis may return almost to normal within a few days, even though the patient has not improved.



AIR RAID ON S.M.A.

Just Before the Can is Sealed . . .

To prevent oxidation or change in the physical or chemical composition of S.M.A., the atmosphere is exhausted from the container and is replaced with nitrogen which keeps the contents — S.M.A. — fresh and sweet in any climate.



The physical and chemical character of S.M.A. is always the same, providing a vitamin A, B₁, and D activity in each feeding that is constant throughout the year.

S.M.A. feedings are always uniform whether they are prepared in Maine or California.

NORMAL INFANTS RELISH S.M.A. — DIGEST IT EASILY AND THRIVE ON IT!

S. M. A. is a food for infants — derived from tuberculin tested cows' milk, the fat of which is replaced by animal and vegetable fats including biologically tested cod liver oil; with the addition of milk sugar and potassium chloride;



altogether forming an antirachitic food. When diluted according to directions, it is essentially similar to human milk in percentages of protein, fat, carbohydrate and ash, in chemical constants of the fat and in physical properties.

Miscellany

RISKS TO FOOTBALL PLAYERS ARE BEING RAPIDLY REDUCED

GAME NOW SAFER FOR HIGH SCHOOL TEAMS AS THE RESULT OF REVISION OF RULES USED BY COLLEGE ELEVENS

The sight of aching, bandaged high school football players, gingerly sliding into their classroom seats on Monday morning, is rapidly being relegated to the limbo of the past.

Alfred E. Parker, Berkeley, Calif., in *Hygeia, The Health Magazine* for November, says that not only is the game becoming less dangerous but its importance as a part of school life is being seriously challenged. "The revolt against American football has gone far beyond a criticism of the dangers of the game," he says. "Attempts have even been made to eliminate football entirely from high school and college sports programs."

Since the adoption in 1932 of interscholastic football rules by the National Federation of State High School Athletic Associations, there has been a growing interest in revision of the game to fit the needs of high school students, who formerly followed the rules set down for college players.

Examples of rules which have improved the safety of the game include elimination of the flying tackle and the flying block and regulation of the kickoff, tackling, the forward pass, the returning of punts and blocking.

Adoption of a new type of game, six-man football, has helped to solve the problems connected with this sport in many schools. Certain rules have helped to reduce injuries. For example, the rules provide that all players be eligible for forward passes, that they must wear canvas shoes with soft rubber soles and that the playing time be decreased to ten minutes per quarter. The committee on rules recommends that officials be required to remove any player who shows signs of being injured, and that such players not be allowed to return to the game until given permission to do so by a physician.

The Portland (Ore.) High School Athletic Association has adopted several important rules regarding football. All boys out for the football team must file with the principal of the school an athletic permit signed by their parents. They must also pass a physical examination before they are permitted to play. Teams are classified according to

age, height and weight, a regulation which makes possible competition between boys of similar physical ability.

Improvements in New York State include the limiting of interschool competition to a maximum of seven games a season. Another regulation bars schools from having a football team unless they have twenty or more boys eligible for participation. "All too many small schools in this country," the author explains, "are trying to carry on interschool football with barely enough players to make up a team. Where this condition exists, the boys on the first eleven are bound to be used more in games, for the small number of substitutes makes it impossible to give the expert player the rest he should have. In larger schools, where the squads are bigger, more boys can be used in a game. Big squads make it possible to conserve the strength of all players, because players can be taken out of a game before a slight injury becomes serious."

Probably the best playing surface for football, Mr. Parker believes, is a turf field. Turf fields are expensive, but they are worth what they cost, for not only are they softer to fall on, but a player using a turf field often develops a different attitude toward falling down. As for wearing apparel, the author says, "Qualified students of football insist that we are putting too much armour on our players and that if we had less equipment, made of softer material, injuries would be reduced."

Mr. Parker emphasizes the evils of commercialism and professionalism as applied to football, citing the "huge gymnasiums, field houses, stadiums, all costing thousands of dollars, and high salaried coaches." Such conditions, he points out, "force coaches, whether they will it or not, to drive players at a pace which is detrimental to their health and which too often results in injured players participating in games when they should be resting on the bench."

PREVENTING RECURRENT KIDNEY STONES

If the recurrence of kidney stones is to be avoided the factors responsible for the primary stone must be looked for, determined and eradicated or corrected at operation or during convalescence, Charles C. Higgins, M. D., Cleveland, declares in *The Journal of the American Medical Association* for Oct. 14.

THE JOURNAL

of

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Published Under the Auspices of the Board of Censors

Vol. 9, No. 6

Montgomery, Alabama

December 1939

PELLAGRA AND ITS MODERN TREATMENT*

WITH SPECIAL EMPHASIS ON THE BORDER-LINE STATES

By

JAMES B. McLESTER, M. D.
Birmingham, Alabama

Pellagra is an old disease, but only now does it seem that continued progress is being made. For years its description in 1735 by Casal and later by others was the total information of real value. Casal suggested that it was a deficiency disease, but for almost two centuries authorities thought it due to poisoning from spoiled corn. In 1915 and 1920, Goldberger made the second step when he showed more positively that it was a deficiency disease, but in spite of this a tremendous incidence and mortality continued. Pellagra remained a real problem to Southern public health, comparable to malaria and hookworm, until recent years when many investigations have given greater hopes of controlling the disease.

Pellagra is diagnosed by its clinical manifestations. With better methods of treatment, we have been making the diagnosis on fewer signs and relying more on the therapeutic test. We now diagnose the disease on the basis of characteristic skin or mouth findings alone and suspect it on the basis of digestive or mental symptoms. No positive laboratory methods have been developed. The addition of the therapeutic test has been the only recent development in diagnosis.

The great advances have been in the field of treatment. The older methods were inadequate. In 1935 and 1936 and earlier, Spies and his associates showed that severe pellagra could be relieved by the administration of extremely large doses of liver extracts or of brewers' yeast given supplementary to a full diet, very high in calories, pro-

tein and pellagra-preventive foods. This treatment was effective, but it required individual attention which could not always be given and therefore results were better but on the whole still poor.

In 1937 came what is perhaps the greatest step forward since the original description by Casal: nicotinic acid would relieve black-tongue, the pellagra of dogs. Without loss of time, several groups showed this to be equally true for human pellagra. Treatment is now easy, the results graphic and sure. We have had no deaths from uncomplicated pellagra since beginning to use nicotinic acid.

Immediate treatment consists simply in the administration of large amounts of nicotinic acid. We usually give 300 to 500 milligrams daily, divided into 100 mgm. doses spaced evenly throughout the day. Some patients cannot tolerate this and may develop marked burning and itching of the skin which usually occur for about an hour after each dose. A smaller individual dose is less apt to produce this, particularly if it is given on a full stomach, but it must be given more frequently. A few patients require a large daily quantity. All patients are carefully watched for evidence of recurrence. On return of the symptoms, the dose is increased until it is effective, or indicated other materials are given as will be discussed. We have not learned when this may be stopped without recurrence.

These doses are given by mouth. Even though the patient is vomiting, there will be some response, but in this event the drug is given intravenously. Nicotinic acid can be boiled without harm. For intravenous use, it is put into 0.1% solution in physiologic saline. Not over 20 cc. are given at a time. Ten minutes are taken to inject this amount into the vein and it is not repeated oftener than hourly. With larger doses, or more rapid or frequent administration, there is an intensely uncomfortable skin reaction. Pa-

*Read before the Association in annual session, Montgomery, April 19, 1939.

renteral administration is repeated hourly until vomiting stops, when oral administration is begun.

I have mentioned only nicotinic acid. Its amide or sodium salt will produce equal results.

On this regimen, without other treatment, the results are very striking: dementia clears, usually within 24 hours. Mouth symptoms disappear rapidly. Diarrhea, vomiting and other digestive symptoms stop fairly promptly. The patient's general sense of well-being shows a remarkable improvement, and the moribund, delirious patient today is an oriented moderately ill patient tomorrow. He is almost well the next day. Nothing in medicine is so dramatic.

Skin lesions respond less well. If there is only an erythema, it will respond, but more slowly than the other symptoms. Where the skin is broken and there is secondary infection, local treatment is required.

The neuritis associated with pellagra is unaffected by nicotinic acid therapy. It is a symptom of beriberi and requires anti-beriberi treatment. Thiamin hydrochloride, that is, vitamin B₁, 10 to 20 mgm. or more daily by mouth, into the muscle, or by vein, is effective.*

It has been demonstrated that some pellagrins require progressively larger doses of nicotinic acid to prevent the recurrence of symptoms. There is evidence to suggest that this is due to a deficiency of riboflavin, and that with the administration of this vitamin smaller doses of nicotinic acid remain effective. We have treated an insufficient number of cases to allow the suggestion of a dose of this material or description of the subsequent behavior of the patient and his disease.

The emaciation of pellagra does not respond to nicotinic acid therapy alone. However, the appetite usually improves so that the patient is more willing and sometimes even anxious to take a diet adequate in caloric content.

Administration of nicotinic acid, or of thiamin or riboflavin relieves only a deficiency of the administered material from the diet.

*Since this paper was written it has been demonstrated that much of the weakness associated with pellagra is due to a deficiency of vitamin B₆. Marked improvement in this symptom is associated with its administration. Vitamin B₆ is not yet commercially available.

Because of the multiple deficiencies in the usual pellagrins' diet, nicotinic acid's greatest usefulness comes as a supplement to a full, well-balanced diet which should be given in all cases. With severer cases, or where the diet has been very poor, yeast should be given also as it is rich in all of these materials as well as in a good protein.

Nicotinic acid has been called a vitamin. Some try to call it G or B₃, but these letters seem fairly firmly attached to riboflavin. We do not know if the vitamin is nicotinic acid or if it is some closely related chemical substance. For this reason and to be in keeping with the trend regarding the other chemically identified vitamins, we prefer to call nicotinic acid, thiamin and riboflavin by their chemical names and thereby avoid confusion. Also in keeping with the trend, we are discussing and prescribing these materials in terms of milligrams of the crystalline material rather than in terms of units.

In a recent paper, Spies, Grant, Stone and McLester showed that clinical pellagra could be prevented by the administration of nicotinic acid. A series of 173 patients who had had the disease every year for from two to fifteen years received the drug and not one developed the disease. A control group of 22, selected on exactly the same basis, did not take the drug and every one of them developed outspoken pellagra. The dosage required by these patients was the same as that required in the treatment of the outspoken disease. In reporting these cases we said that we had prevented clinical pellagra. Did we, rather, treat subclinical pellagra? I think so. In the course of a developing nicotinic acid deficiency, when may we call it pellagra? I am confident that, regardless of what we call it, lesser degrees of nicotinic acid deficiency do produce symptoms. The patients in our preventive series had symptoms that were relieved by nicotinic acid. There was weakness, general malaise and a variety of digestive symptoms. Constipation was a frequent complaint. There was at times mild mental or emotional imbalance.

Spies has used the expressions "chemical pellagra," "chemical nicotinic acid deficiency" and similar terms with other vitamins. These are intended to describe the stage when the patient has a vitamin deficiency and yet has no clinical evidence of disease. I feel that this stage of pellagra is associated

with symptoms that are suggestive but not sufficiently characteristic to justify positive diagnosis.

Another observation also suggests this conclusion. An appreciable number of cases have been seen who were in the hospital the previous year with the diagnosis psychoneurosis and received no antipellagric treatment. It seems probable that they had a chemical or subclinical nicotinic acid deficiency.

Thus, prepellagrins, subclinical pellagrins, chemical pellagrins, that is, the borderline cases, do present symptoms that respond to nicotinic acid therapy. These symptoms are not typical; they might also be related to other disease processes. They are recognized by suspicion and therapeutic test. Many of these patients are not of the economic class in which one finds most pellagra. Some of them are financially comfortable or even wealthy, but for various reasons have not ingested or absorbed adequate quantities of the vitamin.

The following cases are examples of borderline pellagra:

A sixty year old physician had chronic bronchitis, asthma and cardiac failure. He had no appetite, had lost a great deal of weight and weighed less than 90 pounds. He was quite ill. No signs suggested pellagra directly but the poor appetite and weight loss at least hinted. On nicotinic acid he developed an excellent appetite, felt definitely better, and began to gain weight. He slept better. The drug, of course, did not help his heart or lungs but the general outlook and prognosis were improved.

A fifty-four year old woman had widely associated unexplainable pains and was highly nervous. She had certain delusions and had threatened to kill her husband, even attempting it on one occasion. There were no positive physical findings except generalized tenderness. On thiamin and nicotinic acid the pains disappeared and she realized that her ideas were delusional. She became emotionally more calm.

A thirty-five year old man had symptoms referable to his stomach. He was highly nervous and emotionally inadequate to face any problem in life. He had probably had a peptic ulcer. His stomach emptied extremely rapidly and there was a high gastric acidity. On nicotinic acid he became more stable emotionally and the gastric symptoms dis-

appeared for a time. When last seen his symptoms had returned in spite of increased nicotinic acid dosage.

A forty year old woman felt perfectly well and had no symptoms but complained of the color of her tongue. It was somewhat redder than normal and on nicotinic acid it resumed the normal color.

Did these patients have pellagra? Yes and no. They had a nicotinic acid deficiency which, had it been worse, would have been or become pellagra. In each of these patients there was something suspicious but nothing diagnostic. In other similar cases there have been equally good results. In a larger number there has been no response, the symptoms have had another, often undetected cause.

In any disease where there is prolonged loss of appetite, inability to take adequate food, diarrhea, vomiting or other interference with the ingestion, retention or absorption of food, clinical or subclinical pellagra may develop. Symptoms of pellagra may occur in patients who have been on unusual diets because of fads, fancies, or for other reason.

In each case of this kind, the primary condition can be treated with greater success if the pellagra is also treated regardless of its stage. It is our feeling that nicotinic acid or other vitamin product should be given to any patient in whom such deficiency might justifiably be suspected.

In the treatment of subclinical pellagra the dosage and manner of administration is the same as with outspoken pellagra.

What symptoms suggest subclinical pellagra? They are manifold. Weakness, malaise, and easy fatigue may have this origin. So also might almost any digestive symptom, sore mouth, lack of appetite, vomiting, abdominal distress of almost any type but especially a burning sensation, diarrhea or constipation. Many of the milder mental symptoms might originate from subclinical pellagra.

I do not advise the invariable treatment of all of these symptoms with nicotinic acid. It does seem appropriate though that the possibility of deficiency should be borne in mind and when no other origin is found, especially when there is an abnormal dietary history, that nicotinic acid should be tried. It is not a cure-all.

There is much about pellagra that we do not know. We have not fully proven its cause. We have not demonstrated its nature. We do not understand the chemical reasons for its response to nicotinic acid. The field is an active one and I believe that the answers to these fundamental questions are nearer now than they have ever been before.

A STUDY OF NEPHRITIS*

By

L. W. ROE, M. D.
Mobile, Alabama

The large volume of material contributed in recent years by clinicians and research workers on the subject of nephritis (Bright's disease) has shed greater light upon the etiology, pathology and clinical behavior of this disease. The scope of investigation covers many fields—those of physiologic and biologic chemistry, animal experimentation, direct and indirect metabolic changes and the final clinical application and usage of the fundamentals evolved.

The extent of these investigations is expressive of the active interest in a disease, the exact etiology of which is as yet not altogether clear. The benefits to the clinician from this clearer concept dispels, advantageously, the trying task of keeping in mind the elaborate and confusing classification of earlier writers, and concretely defines three main groups. To say the least, therefore, we have a clearer vision and a better understanding of the intricacies and misbehaviors in Bright's disease and can apply such facts with profit to the sick.

The contributions of Volhard and Fahr¹ in 1914 were the first to more clearly define the nephrites and lucidly relate the varied clinical aspects and anatomic changes occurring in each group. Addis's² classification in 1915 is not dissimilar; while Christian's³

outline of 1925 was more on clinical grounds. These distinctive types are, namely, acute glomerular nephritis, chronic nephritis (nephrosis, a newly coined word), and arteriosclerotic nephritis. While the clinical elements of the different groups are now a matter of common knowledge, nevertheless the many quirks and inconsistencies which are not orthodox to the disorders remain to be explained. No doubt, further study of changed metabolism incident to infections, and animal experimentation will clarify these intriguing phenomena.

In this connection, as pointed out by Duguid,⁴ we do not know the evolutionary histologic and pathologic changes of the living nephritic and can commit grave errors in deductions on postmortem examinations. However, on animal experimentation we can place greater hope of success. The meticulous care of these comparative studies can supply, relatively by indirection, essentials not possible to acquire in investigation on the living subject.

Of exceptional quality has been the clinical recordings on acute glomerular nephritis. There is not complete harmony as to the basic reasons for, or the background of, such a serious offense. Nevertheless most clinicians are in accord that the largest percentage of cases of this character follow infections of the upper respiratory tract.

It is interesting to note, contrary to former thought, how few cases follow scarlet fever. This is made mention of by Bell and Hartzell,⁵ and Richter,⁶ and is in keeping with Place's⁷ parallel idea in calling attention to the few cases of acute heart disorder following this disease. Acute glomerular nephritis is essentially of the young. Murphy and Rastetter,⁸ reporting on a series of 150 cases, found that 70% were under the age of 30 years. The percentage of male is somewhat higher than that of female patients. In their age groups it was found also that in each ad-

*Read before the Association in annual session, Montgomery, April 18, 1939.

1. Volhard, F., and Fahr, K. T.: *Die Brightsche Nierenkrankheit, Klinik, Pathologic and Atlas*, Berlin 1914.

2. Addis, Thomas: *A Clinical Classification of Bright's Disease*, J. A. M. A. 85: 163 (July 18) 1925.

Hemorrhagic Bright's Disease: *Natural History*, Bull. Johns Hopkins Hosp. 49: 203 (Oct.) 1931.

3. Christian, H. A.: *Types of Nephritis and Their Management*, J. A. M. A. 102: 169 (Jan. 20) 1934.

4. Duguid, J. B.: *The Lancet*, 2: 987 (Oct. 29) 1938.

5. Bell, E. T., and Hartzell, T. B.: *Etiology and Development of Glomerulonephritis*, Arch. Int. Med. 29: 242 (June 2) 1928.

6. Richter, A. B.: *Prognosis in Acute Glomerular Nephritis*, Ann. Int. Med. 9: 1057 (Feb.) 1936.

7. Place: Boston.

8. Murphy, F. D., and Rastetter, J. W.: *Acute Glomerulonephritis*, J. A. M. A. 9: 668 (Aug. 20) 1938.

vancing decade there was greater fatality. This could be explained, in part, to previous kidney injury or an arteriosclerotic factor, etc. The death rate is influenced materially by the social group in which the disease occurs and on the promptness with which it is recognized.

Disorders of the upper respiratory tract, even though mild, are often forerunners of acute glomerular nephritis. Particularly is this true in the case of infection due to the hemolytic streptococcus. It should be recognized that the exanthems, rheumatism, erysipelas, or any pyogenic infection may precipitate the disorder.

Whether acute glomerular nephritis exists as an entity is now being questioned by many observers. Their conception is that there exists a systemic offense with widespread capillary injury and vasomotor discord. While conclusive evidence to this end has not been established, according to Lyttle,⁹ "it seems probable that capillary constriction is general along with that of the glomerular tufts." He states, further, that "we should be seriously concerned with the capillary disturbance which is present in at least 50% of the cases if they are carefully looked for; and 1% show cerebral manifestations." It has been established that there is no direct bacterial invasion of the kidneys.

The onset is usually insidious, occasionally precipitous. In the young its presence may be suspected when the patient does not "snap out" of the effects of a previous illness. There may be pallor, malaise, headache, puffiness under the eyes, anoxeria and vomiting. I have even known approaching blindness to occur before serious attention was directed to the patient. These expressed misbehaviors may appear early after some illness or as late as eight weeks. It is probable that the damage to the kidneys occurred early; and some explosive episode and expression of accumulative damage called attention to the danger. In the face of these facts it behooves the clinician to be ever watchful of kidney function and urinary findings following any acute infection. One may not forestall the occurrence but its effect can be materially lessened by early knowledge of its presence.

The urinary syndrome of albumin, blood cells and casts establishes the diagnosis. All

of them may not be found constantly, but repeated laboratory studies will establish their presence. Albumin is always present but one should distinguish between pathologic albuminuria and the so-called physiologic albuminuria of the young.

In the Murphy and Rastetter⁸ series, the amount of albumin was of little significance in forecasting the outcome; and Bell⁵ states that "the amount of albumin does not correspond to the degree of glomerular damage as the most severely damaged glomeruli have closed capillaries and excrete no albumin." The hemorrhagic type is that in which gross hematuria occurs. While serious enough, the amount of blood in the urine should not be taken as an index of gravity. A case in point: A child of 10 years, who was under my care, recovered completely even though he secreted 8 ounces of chocolate urine each 24 hours for three days.

Much attention is directed to the frequency of varying degrees of disorder of the heart and the embarrassment of its function, even to the extent of heart failure and death. This complication adds an extra strain to an already grievous offense to the body and justifies the concern which most writers give it. I have seen little of these more serious happenings. The tachycardia, various degrees of pulmonary edema, pallor, etc., seem to me only expressive of parallel phenomena occurring in other acute infections and should be so considered. Mackenzie,¹⁰ in his treatise, *Systemic Influence on Disturbances of Heart Rhythm*, clearly explains the reasons therefor. Even the sudden hypertension, so often mentioned as a provoking cause, has not sufficient justification for this presumption since this condition occurs in other disorders without disastrous consequences. Certainly the heart carries an extra load. Mention is made that most often there is left ventricular embarrassment. We must be assiduously watchful of its behavior. One does not encounter heart death in acute disorders without heart damage. Normal hearts do not fail.

Hypertension is not a constant finding as has been generally thought. The tables of Murphy and Rastetter⁸ show its presence in about 35% of the cases. Under any circumstances it is not to be taken as an index for prognostic purposes. Reports of other ob-

9. Lyttle.

10. Mackenzie, Sir James: *Diseases of the Heart* (1925).

servers are varied, yet it is a serious clinical entity.

Edema is not always present. From the chart of Murphy and Rastetter⁸ the recordings in about 57% of the cases vary from slight puffiness of the face to anasarca. Apparently the plasma level has little influence in this incident. It occurs in consequence of nephritic or heart deficiency, or both. Peters and Van Slyke¹¹ think that early edema is due to increased capillary permeability.

Nitrogen retention is of course dependent upon the capacity of the kidneys to function. In suppressed function the non-protein nitrogen is high; "as the disease levels off," it decreases in amount. Uremia, with or without convulsions, occurs in a small number of cases. With convulsive uremia, there is headache, choked disc and other usual disturbances always associated with hypertension. Nitrogen retention and anuria are unrelated in its development.⁸

TREATMENT

From the foregoing recital, it is manifestly clear that today there is no specific medication which can directly aid in the abatement of the disease. We know we are dealing with inflamed and congested glomeruli of the kidneys with infiltration and edema there about. We must realize that it is not a problem of the kidneys alone. It is essential to pursue the same gentle care of the offended organs as we would apply to any acute disorder. One should have complete rest during the disease, elective rationing in which there is a moderate amount of proteins, satisfactory elimination, protection against changes in body temperature, and watchfulness of the urinary function. As to restricting or forcing fluids, some limit the intake to 600 cc. in 24 hours; others use as much as 2,500 cc. In this controversial matter, hypertension, extra heart burden and permeability of kidneys to fluids are points at issue. Personally I have forced fluids somewhat, always advantageously, feeling that water is the safest and least offensive diuretic—assuming that portions of the kidney substance are functioning.

Refreshing our mind of the influences which determine the volume of urine excreted, we have the following:

1. Quantity of renal circulation
2. Osmotic pressure exerted by the colloids of the blood
3. Concentration of the filtrate itself
4. Rapidity of flow of blood in the tubules

A digest of McDonald's¹² article of the Cleveland Clinic, dealing with the usages of diuretics, he called attention to the need of a clear understanding of their effect. Reference is made to Cushney's¹³ generally accepted idea of kidney function and the Solis-Cohen¹⁴ classification of diuretics, summarized as follows:

I. Those agents which act upon the circulatory system—digitalis, strophanthin and squill

II. Agents acting directly on the kidneys, increasing permeability of the glomerular membrane for or lessening the reabsorption in the tubules, as caffeine, theobromine, theophylline and all of the xanthine group

1. Hydremic diuretics which increase the amount of water available for excretion

a. water—as a diluent

b. Those agents acting on the plasma lessening their avidity for water—calomel, novasurol, salyrgan

c. Those agents which increase the concentration of the blood crystalloids raising the osmotic tension of the blood; as the acetates, citrates, nitrates, sulphates, etc.

It is manifestly evident from the foregoing that these diuretic agents have no place in the treatment of this condition and really may be harmful. Sulphanilamide has been given but no favorable comment on its use has been made. Possibly in a known hemolytic streptococcus infection it might be helpful systemically. I mention, in passing and without discussion, the care of acute or chronic tonsillitis. I should advise against any operative procedure while a kidney defect exists.

It is comforting to realize that no matter how serious the clinical condition is, even to an almost complete suppression of kidney function, the prospects for recovery are good. There is a gradual increase in urinary excretion and consequent return to normal. One reporter states that 90% of patients survive the acute stage; 80% of the

11. Peters, J. P., and Van Slyke, D. D.: Quantitative Clinical Chemistry. Baltimore: Williams & Wilkins Co., 1932.

12. McDonald: Cleveland Clinic.

13. Cushney.

14. Solis-Cohen, Solomon: Pharmacotherapeutics. New York: D. Appleton Co., 1928.

survivors are found cured; and 20% go on to chronic disease.

There is a fair percentage of cases dependent on severity of infection, extent of kidney involvement and length of the acute attack, which never recover from the kidney damage and pass on to chronic nephritis with periodic exacerbations of greater or less degree. Time does not permit a lengthy discussion of this important chronic phase of Bright's disease, but I would say, in passing, that the term "chronic" should be used in a descriptive sense as implying a damaged kidney cortex, unable to fill its function fully and not a chronic inflammatory or infectious condition. In all likelihood the periodic deficiency outburst is the result of a new infection or the toxemia of infection, similar to the renewed implants which so often follow acute rheumatic heart disorder.

ARTERIOSCLEROTIC NEPHRITIS

Although controversial, the term arteriosclerotic nephritis is used as descriptive of a definite type of kidney damage based on deductions made from histologic studies wherein striking and varied structural changes occur, involving particularly the blood vessel network—such as sclerosis, tortuosities and a narrowed or obliterated lumen.

From this sequence of evolutionary events arises the assumption that there is an ischemia, with gradual death of the cortical substance and kidney dysfunction. Duguid⁴ and others take exception to this interpretation and in a very interesting study of the kidneys of rats at varying stages of disintegration, following the feeding of a ration of sodium phosphate and calciferol, showed cortical changes not dissimilar to those found in the arteriosclerotic kidney of the human.

His interpretation is that the primary changes occur from without the blood vessels and the basic histologic changes found in the human kidney had a counterpart in his animal study, contending, therefore, that the ischemia occurred in consequence and the blood vessels were injured, crushed, or distorted through atrophy. He concluded that before the correct classification of arteriosclerotic nephritis is decided upon, we must recognize the influences of metabolism and await further light from this source.

IMPORTANCE OF EARLY X-RAY DIAGNOSIS IN GASTRO-INTESTINAL DISEASE*

By

H. M. SIMPSON, M. D.

Florence, Ala.

The old adage that familiarity breeds contempt, if paraphrased to read indifference, would, I believe, describe the attitude of a large number of physicians toward the patient with the various manifestations of digestive distress.

There is little wonder that this is true since such a large proportion of our people have symptoms referable to the digestive processes. The widespread incidence of this type of distress has furnished the basis for the very profitable exploitation of a number of radio-advertised nostrums for "acid indigestion."

In spite of the marvelous properties of these products, as described over the radio, many patients still drift into doctors' offices with abdominal distress. Unfortunately, some of these, we find, have, in relieving the physiologic danger signals, delayed attention to a serious malady until a tragic sequel is unavoidable.

We all from day to day see many patients complaining of such vague symptoms as gas, sour stomach and so forth, and in the long run find so many of these manifestations to be functional in origin that we are apt to fall into the mental habit of regarding such complaints as unimportant, dismissing the patient with an alkali prescription and casual dietary suggestions. In fact, one hears so many obviously neurotic complaints that it is with a sense of triumph that occasionally a real organic condition is discovered. One is not surprised, therefore, to read that Rivers, in studying the histories of a large number of patients between thirty and sixty years of age, examined at the Mayo Clinic, found that nearly half complained of some form of dyspepsia. It is very interesting to learn and gives much food for thought, however, to know that in those of this group over forty years of age, one-half of the men and two out of five of the women were found to have such serious lesions as peptic ulcer, cholecystic disease or carcinoma of the gastro-intestinal or accessory gastro-intestinal

*Read before the Association in annual session, Montgomery, April 18, 1939.

tract, and that one out of six of the men had cancer of the stomach, intestinal tract or pancreas.

Even though we may not expect so large an incidence of organic disease in the general run of practice, roentgenologic examination may offer a great deal of help even in functional conditions. We find for instance that a great many of our patients with indigestion and gas leading a miserable life of fear of food and perhaps having palpitation and heart pain to the extent of inducing a cardiac neurosis, have spastic manifestations in the pylorus or colon, or both, and can be relieved to a large extent by a regimen directed toward the correction of these conditions. Many of these patients are true neurotics and need psychotherapy. We cannot all be psychotherapists, yet, on the other hand, one of the most convincing psychotherapeutic attacks that can be made on the phobias of the neurotic, in my experience, is reassurance based upon the results of a carefully conducted clinical and roentgenologic examination.

I might enter a word of warning here, too, that even though one is convinced after careful clinical and x-ray study that the digestive distress is functional, if it persist in spite of treatment, especially if the patient is past middle age, frequent repetition of the x-ray observations should be made. It is notable that Wilbur, in a study of the subsequent history of 354 cases dismissed with the diagnosis of functional indigestion, on an average of seven and one-half years after, found a final error of about 14.4%.

Impelled by the exigencies of every day practice, one is often tempted to enter into a program of treatment for what seems to be a fairly definite clinical syndrome without resorting to roentgenology for confirmation of the clinical impression. Though the importance of a good history and a careful clinical and laboratory examination in the diagnosis of gastro-intestinal diseases is unassailable, one can fall into embarrassing and sometimes tragic error by depending upon these alone. Take, for instance, the familiar syndrome of periodic distress, one to three hours after meals, with relief by food and alkalis which, in my medical school days, meant ulcer with considerable certainty. One is left in some confusion, however, to find that Schindler, reporting on a large number of cases of gastroscopically proven gastritis in

which other pathology had been ruled out by all the facilities available in a large well equipped hospital, found that fifty per cent had periodic distress usually one to three hours after meals, and usually food and alkali relief.

A number of other investigators have found this type of distress in gallbladder disease and in irritable colon. Conversely, Rivers, in comparing the site and radiation of pain in gastric and duodenal ulcer in an extended series of cases, found that though in uncomplicated ulcer the pain type was quite clear cut, when perforation or deep penetration occurs or where there are multiple ulcers, the pain may be referred in any direction; to the gallbladder region, back or even into the chest, thus greatly increasing the diagnostic difficulties. Finally, even if one should be correct in a clinical diagnosis of ulcer, the location, size and degree of penetration are of paramount importance in directing the treatment and the future living regimen of your patient. Especially if the ulcer is on the gastric side of the pyloric sphincter, it should be observed constantly until and for a long period after a complete roentgenologic cure, as seventeen per cent of these will eventually become malignant.

Another dramatic incident leading to the diagnosis of ulcer is hemorrhage. The necessity of early x-ray examination in these cases will appear obvious when one reviews the statistics of Allen at the Massachusetts General Hospital, who, in 231 cases of massive hemorrhage from the stomach, found twenty-five per cent each from carcinoma and duodenal ulcer, twelve per cent from gastric ulcer and twenty-seven per cent from esophageal varices.

Early recourse to x-ray investigation in all cases of recurrent or persistent indigestion will save the patient months or years of distress and incapacity and the physician injury to his reputation as a diagnostician by clearing up the source of many complaints. The obese middle-aged individual with recurring indigestion, dysphagia and thoracic pain, often of an anginal nature, may, instead of harboring a neurosis, a chronic gallbladder or heart trouble, be found to have a paraesophageal hernia.

Some cases of obscure abdominal pain with gas and either constipation or diarrhea will be found to show the narrowed inelastic stringlike shadow of regional ileitis.

Because of the high mortality from cancer, especial emphasis should be placed on early diagnosis of these lesions. The eradication of cancer of the gastro-intestinal tract by surgery is notoriously disappointing, chiefly because of late diagnoses. Unless, for instance, carcinoma of the stomach occurs in the antral portion where obstructive phenomena are manifest, the growth can attain unbelievable proportions before the symptomatology is sufficiently marked to demand attention.

In conclusion, I would enter a plea for earlier and more definitive diagnosis of gastro-intestinal conditions and particularly their diagnostic confirmation by early x-ray examination. I would reiterate the dictum of Chene and Dubarry when they say dyspepsia is to be considered of nervous origin when in the presence of neurovegetative symptoms, exhaustive study of the history and use of all direct and indirect methods of examination no other explanation can be found, and I would add the caution to re-examine often if the symptoms persist.

I would invite the attention of the general practitioner to the necessity of educating the public concerning the dangers of delay, resulting from palliation of symptoms referable to the gastro-intestinal tract and I would challenge the interest of the profession in the early x-ray diagnosis of these conditions so that we may fulfill our obligation in preserving the comfort and safety of the individual with a chronic gastro-intestinal complaint.

TUBERCULOSIS CONTROL ACTIVITIES IN A NORTH ALABAMA COUNTY*

By
R. E. HARPER, M. D.†
Tuscumbia, Alabama

In spite of gratifying progress made in antituberculosis work during the past few decades, tuberculosis is still killing and making invalids of more Americans, during the best years of their lives, than any other disease. It is responsible for the death of 70,000 persons annually in this country. In any year there are probably 420,000 active cases which, within their families, expose a million other persons to infection. By the working of this cycle alone there is maintained a

tuberculosis population numbering 1,500,000. In the age group 15 to 45 years—men and women in their most creative years—tuberculosis mortality ranks second only to accidents.

In Alabama, tuberculosis claims the lives of 1,700 persons annually, and the number of active cases, among the people of the State, is estimated at six to eight times that number.

The picture of the tuberculosis problem in Colbert County is similar to that found in other North Alabama counties of the Tennessee Valley where tuberculosis is perhaps more prevalent than in any other section of the State. In Colbert County, for a period of several years there has been one death annually for approximately every 1,500 persons.

It has been aptly said that, "As a public health problem, tuberculosis presents a maximum of interests and responsibilities: (1st) It is a communicable disease. (2nd) Within certain limitations, it is preventable. (3rd) It affects relatively large numbers of people. (4th) In most states and cities there are laws and ordinances requiring that the health department institute measures to prevent spread of the disease. (5th) Though public opinion is somewhat foggy and not sufficiently crystallized to provide adequate facilities and measures for maximum obtainable control of the disease, each individual in the public is prepared to demand that the health department do something when he believes that he or his family is endangered by tuberculosis in some other individual or family."

For these reasons and many others, tuberculosis is a major problem demanding the attention of health agencies and of all others interested in its control. That tuberculosis can be controlled, indeed eradicated, by eliminating all sources of infection, has been well illustrated by the program that has been carried on in the control of bovine tuberculosis. Within a relatively few years it has been possible to reduce infection among cattle to a minimal point in most of the counties of this country.

At once it may be said that the drastic method of sending every animal reacting to tuberculin off to the slaughter-house cannot be applied to human kind, and, of course, it cannot. However, there are other means of accomplishing our purpose, more laborious

*Read before the Association in annual session, Montgomery, April 19, 1939.

†Health Officer of Colbert County.

to carry out to be sure but if extensively done will bring about the desired result.

The activities that must be developed for this purpose are:

- 1st. Case finding
- 2nd. Isolation
- 3rd. Prompt and adequate treatment
- 4th. Follow-up and rehabilitation

Most of these activities have been partially developed, in Colbert County, with rather gratifying results.

It is almost axiomatic that it is not enough just to provide facilities for these activities, but the public must be made aware of their presence and the desirability, even the necessity, of availing themselves of their use. In other words, health education plays an all-important role in acquainting the public of their personal part in the control of tuberculosis. For the past several years a rather extensive health education program has been carried on in Colbert County. This program consisted of newspaper articles, radio talks, motion pictures, exhibits, talks to civic and other clubs and P.-T. A. groups, talks at community meetings held throughout the county and distribution of pamphlets, bulletins and other data pertaining to tuberculosis.

In this program of health education, especial emphasis was placed on the importance of early diagnosis. The endeavor was to acquaint the public of the fact that tuberculosis is not necessarily a disease from which death is inevitable—a belief which has been entirely too prevalent—but that it must be discovered early and properly treated and isolated if the patient is to recover, and the danger of its spreading to contacts be eliminated.

Granted then that health education is all-important in the tuberculosis control problem, let us further examine the proposed steps in the program of limiting the spread of the tubercle bacillus as a sound approach to the control of this disease.

CASE FINDING

It is fundamental in the control of *any* communicable disease that the sources of the infecting organism be found. Since tuberculosis has been so well controlled in cattle, there remains only one important source of tubercle bacilli that may be harmful to man, and that is the person who has tuberculosis.

The person with open pulmonary tuberculosis is the most serious menace as a source of infection, but other cases of closed pulmonary disease may be potential sources if not discovered and protected against breakdown.

Finding these persons who have tuberculosis then becomes of prime importance, for if they can be found before they have become open cases there is a far greater chance of their good recovery and, which is of even greater importance, they will not have become spreaders of infection.

Clinicians have long since recognized, however, that early cases are seldom brought to light through the examination of persons who come to them because of symptoms sufficiently severe to cause them to seek the services of a physician.

The classical symptoms, cough, pulmonary hemorrhage, fever, loss of weight, night sweats, and excessive fatigue are not the evidence of early tuberculosis, but rather are they the accompaniment of advanced pulmonary tuberculosis.

It is therefore a problem of examining those who, as far as they know, are quite well if the truly early or minimal case is to be found before any symptoms severe enough to attract attention have developed.

It seems to be general experience the country over to have more than eighty per cent of the tuberculosis cases reported in the moderately or far advanced stages. It is recognized that in the very nature of things there are limits to the proportion of cases that may be found in the minimal stage. Certainly there is room for much improvement in this situation. But how?

When searching for sources of infection, in any communicable disease, it is logical to analyze the data we already possess as to where these already known cases have come from, and be guided accordingly. While it is highly desirable that everyone should have a periodic health examination sufficiently complete to rule out tuberculosis, it is not as yet within the realm of practicability.

It does seem practical, however, to single out certain groups where experience has definitely shown, through case reports and deaths, that tuberculosis is more prevalent. Such a group, for instance, is made of those who have been in close contact with a definite case of tuberculosis, particularly in the intimacies of family life. This is being done

in Colbert County. All close contacts of known cases and the close contacts of all deaths from this disease which have occurred in the county during the past several years are being approached in a case finding program.

A few months ago the Colbert County Tuberculosis Association, with the approval of the County Medical Society, placed in the local health department an x-ray machine with which to make chest pictures of tuberculosis suspects and contacts. That the physicians of the county are vitally interested is evidenced by the fact that three hundred and eleven x-ray pictures have already been requested by them. Of this number thirty active cases of tuberculosis have been discovered, and fifty-two suspects are under observation—re-x-rays having been recommended. Only cases referred by physicians are x-rayed. A full-time x-ray technician is employed to do this work and a tuberculosis expert, in the employ of the State Health Department, interprets the pictures. During the current year it is hoped that x-ray pictures will be made on the vast majority of the tuberculosis contacts in the county.

ISOLATION AND TREATMENT

Having found the cases, isolation must be provided and with it prompt and adequate treatment. While isolation and treatment of a sort can be provided in the home, it is pretty well agreed that institutional care is far more satisfactory. Particularly is this true in communities where home facilities are not such that suitable arrangements for the patient can be made and the economic status of the family will not carry the load of a sick member at home, even were space available.

Early in 1936, through efforts of the Colbert County Tuberculosis Association, the Colbert County Health Department and others interested in the control of tuberculosis, five bed-units were endowed at the Morgan County Tuberculosis Sanatorium, and in the fall of that year the Colbert County Board of Revenue agreed to maintain these bed-units. While entirely inadequate to care for the large number of cases of tuberculosis in the county, sixty-eight cases have received treatment at this institution. Inasmuch as most of these cases were minimal to moderately advanced, it has been possible to treat a larger number than could have been treated otherwise—shorter pe-

riods of institutional care being needed to accomplish the desired results of a negative sputum and closed cavities.

But what of the far-advanced open case? Many of these cases are ambulatory, and, as such, are a particular menace, not only to their immediate families, but, very often, to their neighbors. With hospitalization not yet provided for these cases, it seems quite impossible to properly isolate all of them.

The Colbert County Board of Revenue, cognizant of this menace, is now converting the former pauper farm into a tuberculosis home, where far-advanced cases are being isolated and cared for. In placing cases in this home, those with the greatest number of contacts are given preference. Fifteen beds have been provided and each is occupied. A nurse has been employed by the county to care for these patients and medical service is available when needed. The Board has under consideration the construction of an additional building in which thirty or more cases may be isolated and cared for. Early cases, which cannot be adequately cared for at home, will also be placed here while awaiting vacancies in the Sanatorium.

FOLLOW-UP AND REHABILITATION

The after care of the discharged patient and his rehabilitation into the community's activities is perhaps one of the most poorly done phases of the tuberculosis control program in most counties.

This part of the problem calls for the provision of *good* medical follow-up to see that arrested cases are properly advised, and the least evidence of reactivation of disease detected before any serious harm has occurred to the patient, or he may again have become a spreader of infection to those about him. Because of a very limited personnel and the necessarily varied activities of public health work, it is difficult for the Health Department to make this service anything like complete. Very little more has been done in Colbert County than a rather meager follow-up for the purpose of observation and to advise re-x-rays. However, it is realized that this group of persons, without proper care, furnishes perhaps more open cases, person for person, than any other group in the community.

Returning the ex-patient to a gainful occupation is indeed difficult. It seems likely that sheltered occupations may have to be provided for many. Certainly this is more

desirable than undertaking to pension the arrested case as has been done in Denmark. In some states there are special boards for vocational training and rehabilitation, supported by federal and state funds. These offer instruction in various vocations, if the person can provide his own support while taking this training. While quite limited in scope, these activities are undoubtedly valuable.

It is evident that there is room for improvement in the program for the control of tuberculosis. However, approaching it as a problem in communicable disease control, with the objective of limiting the spread of the infecting organism, is sound, and can be carried out by:

(1st) Finding the cases (the sources of the infecting bacillus).

(2nd) Providing isolation for the active case, particularly the open case.

(3rd) Initiating prompt and adequate treatment looking toward restoring the health of the individual and making him safe to return to society.

(4th) Giving careful follow-up supervision and rehabilitation facilities so that the patient may safely return to the community with less danger of breakdown and a minimum danger of becoming again a spreader of infection.

Let us not be content with present methods and facilities, but be continually striving for better ways and means of combating this scourge, which we now confidently believe is being gradually but surely driven from its last strongholds.

THE FEEDING SCHEDULE DURING THE FIRST YEAR*

By

CHAS. E. ABBOTT, M. D.
Tuscaloosa, Alabama

In discussing feeding during the first year I bring to you the oldest subject in medicine. While most medical topics date back to the time of Hippocrates and other illustrious men of old, mine goes back to the time of Cain and Abel; and while we do not know just what was fed them it is a matter of record that their mother committed the first grievous indiscretion of diet and passed on

to the whole human race many an ache and pain.

When we mention feeding the baby we naturally think first of breast milk and justly so for it has first place in the very young. Breast milk is specific to all mammals and the milk of one may even be very harmful to another. I do not agree with those who hold that the mother of today does not want to nurse her baby. Most of those whom I see are, if anything, too anxious to do so for their own good. Certain it is that there are fewer breast fed babies in my practice now than even a few years ago and I think this holds true with most doctors of today. I do agree that the stress and confusion of present day living and the whole tempo of our existence militate against it for rest for the body and, more important still, peace of mind are essential. Another essential is for the baby to demand milk of the mother by thoroughly emptying the breast at each feeding as supply and demand adjustments are usually made by our friend Nature.

It is my belief, though many of you will disagree, that most physicians are too quick to give a supplementary feeding; and many do so routinely for fear the baby may loose a few ounces. Quite a number of these babies find it much easier to get the bottle milk than that from the breast so refuse to work at the breast. It will not hurt the newly born, if he is healthy and vigorous, to loose a few ounces and have to work for a living. We ought not to teach him too soon about SMA, WPA, or other easily obtained livelihood. Give water to supply his fluid needs and prevent dehydration and inanition fever and let him demand milk by his efforts at nursing. Of course you must watch the baby carefully and not let him loose too much. It is especially important to watch the weak or very small for a baby too frail to nurse vigorously at the breast may become weaker and seem satisfied when he is really dangerously apathetic. We must give the mother full assurance that we can supply an adequate diet should she not do so lest anxiety and worry about the baby defeat our very purpose. I have been told that there is a hormone called prolactin, I believe, which it is thought may stimulate the breast milk to a gratifying degree. Another point worth considering in this day of pandemic allergy is that some of the allergists claim that many

*Read before the Association in annual session, Montgomery, April 18, 1939.

babies are made allergic by this routine giving of milk formulae from the first day on.

I think it is highly worth while that the baby be fed on a regular schedule. Of course many of these little fellows will do well when fed every time they cry or even wiggle a bit but it is best for the child and mother to have a regular time for feedings. It matters not whether it be a three or four-hour interval between feedings but most physicians feed the small, say six pounds or under, on a three-hour schedule and all over that at four-hour intervals. This would be dependent on the development and vigor of the individual. Every case in medicine, whether a baby or not, should be considered individually and it will help us all to remember this. While stressing the regular interval do not forget to mention that should the baby sleep half an hour over one feeding that he is to be gotten back to the usual time at the next regular nursing, and not try to make him go half an hour over all the other regular times. I am bringing you these little details because so often they become so commonplace to us that we forget to tell the mother about them.

Not long ago I found a college graduate in tears because her breasts were so sore that she could not face the prospect of the next nursing. When I asked how long she nursed the baby she said from one and a half to two hours because nobody had thought it necessary to tell her how long it should take. Most of the milk is gotten in the first eight to ten minutes and twenty to thirty is surely long enough. Do not allow the breast to be used as a pacifier. When a baby has stopped nursing do not think that there is still lots of milk because some can be squeezed out, for this can be done almost indefinitely. After the second or third month the night feeding may usually be omitted and all can be put on a four-hour schedule then. This gives the mother more freedom and does not hurt the child. In fact it is helpful as he is soon to get additional foods and the feeding interval should be lengthened then if not sooner. About this time I have the mother give an occasional bottle feeding in the place of a nursing to teach the baby to take it and give the mother more freedom for special occasions which arise in every life. When the time to wean comes at about the eighth or tenth month it should not be a sudden change but a gradual process. In this there

should be no dread of the second summer for this is a bugbear from the days of unboiled milk and of keeping it in no cooler place than the spring house. We had no well prepared artificial feeding either.

Now about the so-called artificial feedings. When I mentioned SMA a while ago I did not mean to infer that I do not consider it a fine feeding for certain babies. I have no fight with these preparations and find in them a boon to the baby who needs them, and also to the doctor who must prescribe a formula. However, the many varieties now on the market fail to arouse in me a feeling that there is now a food for every feeding problem and think that we should stick to two or three with which we thoroughly familiarize ourselves. Infant feeding cannot be done by any one rule. Make yourself familiar with the basic requirements and apply these.

If you were like me when in medical school you were given to understand that the feeding of babies was only for those gifted in higher mathematics, as the figuring of a percentage formula was beyond the average mind. And sure enough it just about was. Successful feeding comes from experience and practice and it does not matter whether you derive your formula from calories or ounces. Cow's milk is perhaps the most used substitute in our section of the State but it is not always the best. It is poorly tolerated by many very young infants in comparison to some of the other milk preparations. But first let us get some reasonable points which we can keep fairly fixed. A baby needs about two to two and a half ounces per pound of body weight. Another good way to arrive at the amount to be given is to add two to the age in months and give this as the amount of each feeding and to figure six or seven feedings a day. You may safely start with equal parts of milk and water and gradually increase the strength until whole milk is given at about the third month or even sooner depending on the development, growth and tolerance of the baby in question.

Mother's milk contains about six tablespoons of sugar to the quart so we may safely add some form of sugar to the formula. One may add two tablespoons to the quart and increase to three or four. Some men go up to eight or more but I rarely go over the four as it seems to supply all that the usual

case needs. We agree with those writers who say that there is apparently no great difference in the results from the various sugars offered a baby. We use Dextri-Maltose, Karo, cane sugar and sometimes honey and feel that it matters little which is used. Boiling milk five minutes makes it more digestible and also practically sterile and does no harm other than the partial destruction of vitamin C which can be given as one ounce of orange juice. It is safer to boil milk and put it at once in the refrigerator than to depend on pasteurization at a plant.

Evaporated milk is one of the simplest and safest of all milks available. It is evaporated down to a little less than half its original bulk and you govern your dilutions accordingly. However, a baby will usually tolerate well a more concentrated formula of this than of the boiled sweet milk. This is supposedly due to the breaking up of the fat globules into very fine globules in the process of preparation. You can usually start with one part of this milk to two parts of water and add the necessary sugar. It has the advantages of being uniform, sterile and cheap. Though most of the evaporated milks on the market are advertised as irradiated and containing enough vitamin D to prevent rickets, we do not feel that we should rely on this alone as yet. Babies at about two months seem to tolerate equal parts of this milk and water well. Do not confuse this with condensed milk with its high percentage of added sugar.

The dried milks have had most of the fat removed or otherwise changed to meet certain ideas of infant feeding and should for the most part be used only for a short time for some specific purpose. We think it sufficient to know the composition of two or three or these and not worry about all the rest.

Lactic acid milk is made by adding a teaspoon and a half of lactic acid to a quart of milk or about four or five drops to the ounce. It is easily digested and is tolerated in much higher strengths by most babies than is other milks. It can be made from boiled sweet milk or evaporated milk by the addition of the acid or a culture of the lactic acid bacillus. We like it and use it frequently with most gratifying results. It seems to be more universally well tolerated than most any other artificial feeding.

There is certainly more to infant feeding than the giving of a proper formula and it behooves us to learn all we can about these accessory foods or substances. Do not boast that you know nothing about these new fangled vitamins. With all the flood of publicity given them, one must speak with the knowledge of present advances or the mother will go elsewhere lest her darling be a deficiency baby. Mother's milk of a woman on an adequate and well balanced diet is sufficient for three or four months but then something else is needed. We are all familiar with the need for vitamins A and D and C which are supplied as cod liver oil in the two first named and in fruit juice, such as orange, in the case of vitamin C. More recently vitamin B complex has been found to be of great importance in many respects. While this applies more to the older child or to the adult it does have a place even in infancy as it directly affects appetite and muscle tone of the intestinal tract. Beriberi is described in breast fed babies where the mother's diet is deficient but I have not seen it or recognized it.

Then there are other foods which concern us during this first year. I can see no reason to join the race to see how soon you can feed a baby without upsetting him but think a program about as follows is a fairly safe one. It has been our practice to start cereals at the fourth month, though many start a month sooner. I think that our Southern babies definitely do not tolerate food as well in the early months as do the babies of a cooler climate but cereals are easily tolerated at a very early age as is evidenced by the thick feedings given babies in the first weeks of life in cases of pylorospasm. Farina, Cream of Wheat, Pablum, Gerber's cereal, etc., are all good and well taken. Start with one or two teaspoons and add sugar and salt to taste and some of the baby's formula or plain boiled milk as a diluent. You can rapidly increase to several tablespoons according to the baby's desire for food. It is well to give the cereal at two feedings a day and will usually be taken best if given before the bottle at first. At the fifth month vegetables may be given and here again we start with a small amount and increase as indicated. Almost any of the prepared baby vegetables are well taken and cause very few upsets. If they are cooked at home, they should not be cooked too long and must be

put through a sieve at first. It will be well at about the eighth month to start giving coarser foods as some babies, if not taught early, will later refuse anything that is not a mush and may even vomit any semisolid food. Baked potato and banana may be added at six or seven months of age. Egg yolk may be given as early as the second month but most times it is started at the second half year and then in small amounts as it may cause trouble. The white of course is most apt to do harm.

Meats are given at the eleventh or twelfth month in the form of scraped beef or ground liver or bacon. Simple desserts such as boiled custards, Jello, cornstarch pudding and ice cream may be given at about the eighth month.

In closing, I should like to mention a few miscellaneous points about the first year. I do not know whether it is your custom to put a pinch of soda in the water given all babies or not, but I imagine it is since the practice seems to be rather widespread. It is said to be given to keep down an "acid condition." Just what that is, I cannot find out but it covers a multitude of conditions or ignorance. I am at a loss to decide which. I do know that I stop a number of cases of diarrhea and relieve many vomiting babies by merely cutting out the soda. I think that the only people who really know what an "acid condition" is are those who advertize in the movie theatres and over the radio. It probably is a financial condition after all. Also remember that what the mother does eat is much more important than what she should not eat.

Let's feed our babies not according to directions on some can but by a knowledge of what is needed and what they can tolerate. Use that milk with which you are most familiar and make it a point to know more about feeding children during this all important first year.

Tuberculosis in the Aged—It is a known fact that when old people are found to have tuberculosis it is almost impossible to teach them to take care of themselves and protect others from infection. They will not cover their mouths during a cough or sneeze, nor will they try to protect and destroy their sputum. Their idea is that they have lived all these years with this old cough, it has not hurt them, and they do not see how they can harm anyone else. Elderly people with a chronic cough and positive sputum are a menace to society and should be isolated.—*Harrell, Virginia M. Monthly, November, 1939.*

Rat Bite Fever—Rat bite fever is an acute infectious disease caused by a specific spirochete. The disease is contracted from the bite of a rat or less commonly from the bite of another member of the rat family. It is characterized by a relapsing type of fever and an exanthematous rash.

The incubation period is usually from ten to twenty-seven days, although it may vary greatly. At the onset of the disease, the bite, which has characteristically healed, and remained healed, becomes swollen, painful, and bluish-red in color. Lymphangitis and painful lymphadenopathy develop. It is occasionally incised at this stage, but no pus is found. Constitutional symptoms soon follow with a chill or chilly sensations and rapid rise in temperature to 103 to 105°. The patient has severe muscular pain and tenderness, especially in the lower extremities.

Prophylactic treatment of the wound is advocated. Cauterization of the wound with pure phenol and application of a wet dressing of 1/3000 bichloride of mercury is the method of choice. Some form of antiseptic is usually applied at home shortly after the bite. The success of this is difficult to estimate, but in our series several were painted with iodine without prophylactic effect.

The specific treatment is the arsenicals as used in syphilis. A single injection of 0.3 gram of nearsphenamine is said to be curative in the majority of cases. However, we found that a series of from 3 to 10 injections was preferable in children. In one of our cases, a 12-year-old boy, a blood transfusion and a series of sodium cacodylate injections starting with 0.5 cc. and working up to 2 cc. was used with apparent success. However, because of adverse reports as to this drug's spirochetocidal powers we are now using nearsphenamine coincidentally with intramuscular bismuth. The injections are started as soon as the disease is diagnosed and may be given during the pyrexial attacks. Symptomatic treatment of course is employed along with the specific treatment. This consists of aspirin and codeine to relieve the muscular pains and hematinics to correct the secondary anemia.

The diagnosis is relatively simple when the history of the rat bite is volunteered by the patient. If this history is not volunteered, the clinician must base his diagnosis on the peculiar bluish-red discoloration of the original wound, the characteristic rash and the relapsing type of fever. His suspicions aroused, the history of the bite is usually obtained. In the differential diagnosis, a pyogenic infection differs in that the inflammation follows the bite closely and that these patients occasionally have a strongly positive Wassermann which might lead to a mistaken diagnosis of syphilis.—*Gilkey and Dennie, South. M. J., November, 1939.*

NEXT MEETING OF THE ASSOCIATION

BIRMINGHAM

APRIL 16-18, 1940

THE JOURNAL
of the

Medical Association of the State of Alabama

Editor-in-Chief

FRED W. WILKERSON Montgomery

Associate Editors

M. Y. DABNEY Birmingham
W. D. PARTLOW Tuscaloosa
J. N. BAKER Montgomery
DOUGLAS L. CANNON Montgomery

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

Office of Publication

519 Dexter Avenue Montgomery, Ala.

Subscription Price \$3.00 Per Year

December 1939

MEDICAL CARE SERVICES IN CO-OPERATION WITH THE FARM SECURITY ADMINISTRATION

In this issue of the Journal, under Committee Contributions, appears a paper by Dr. J. Paul Jones, of Camden, reporting most interestingly and fully on the co-operative medical projects now in operation in Wilcox County.

It will be recalled that the Board, at the Association's 1938 meeting in Mobile, gave very careful consideration to resolutions presented from Coffee and Wilcox Counties, in which appeal was made that our present ordinances governing contract practice be so amended as to permit ethical contracts with this federal agency. Upon the recommendations submitted from the Board and the Public Relations Committee, the Association amended this ordinance so as to meet this new need arising in the rural sections of our State. (Vide July 1938 issue, State Journal, pp. 22 to 26—Report of Board of Censors—Resolutions from Coffee and Wilcox Counties.)

Since this action on the Association's part, such co-operative projects, modeled quite similarly along broad lines of professional supervision of the medical aspects of the program and with free choice of physician, have been worked out and are functioning, with varying degrees of satisfaction and smoothness, in some twenty-five counties.

Being a hitherto unexplored field, with but scant actuarial data available for guidance, and embracing an agricultural group pitifully low in the economic scale, one could hardly expect a too rapid development of satisfactory techniques in the administration of any problem so complex. The "trial and error" approach must be freely employed at many points and accurate observations made and carefully appraised before there can be evolved a workable plan.

At the April 1939 meeting of our Association an excellent symposium was presented on medical and hospital care in this State, the contributors being Drs. Gibson and Jones, Craddock, Jackson and Anderson. (Vide June 1939 issue of the State Journal.) The latest contribution made by Dr. Jones, and appearing in this issue of the Journal, seeks to further analyse and evaluate the two federal projects now operative in Wilcox County. This study is so complete and informative that the Editorial Staff desires to commend it to the careful reading of members in those counties where administrative difficulties have presented. It will be observed that in this study several things starkly stand out. The most patent, perhaps, is the large number of correctible physical defects found in this low-income group, which constitute a continuous drain both on the fund set up for routine medical care, and on the efficiency and productivity of the individual. The problem immediately presenting here is: How can the hospital and medical costs involved in these corrections be met? The tentative agreement set up in Wilcox County for 1940 suggests an increase in the per family loan advanced by the Farm Security Administration (bearing an interest rate of 5%), thereby creating a larger fund for hospitalisation, surgery and dental care. In the addendum to Dr. Jones' paper, submitted after it had been prepared and following a conference with the Medical Adviser to the Farm Security Administration, it is pointed out that federal funds now available through this source will not at this time permit of expansion of the medical care program to include such corrections. Without aid from some quarter it would appear quite impossible to have these corrections made.

Another disconcerting factor which has grown out of the experiences in some of the poorest counties has been that the amounts

advanced to each family have not been sufficient to give to the physicians a moderate return for the services rendered; this has been particularly true in certain counties where, manifestly, a too large amount had been specifically set aside for hospital and surgical care. This seems to be a defect which might be corrected through a frank discussion by all the interested parties looking to a more satisfactory adjustment and redistribution of the financial side of the problem. In this connection, it would appear that the plan of payment to physicians, as set forth in Section 18 of the Wilcox Plan, whereby each doctor receives monthly, and regardless of the individual services rendered, an amount determined by the number of families on his list, should serve to obviate some of the difficulties, as well as to encourage good health and minimise sickness.

Of course, much of study and experimentation remains to be done. This report from Wilcox County should serve as a stimulus to other participating societies to re-examine their plans, and, in the light of their own experiences and that gained from a study of procedures adopted in other counties, make an effort to modify and improve existing practices. The Public Relations Committee will welcome contributions from other counties, setting forth their experiences and suggestions. Only in this way can a fair appraisal be made and plans for the improvement and betterment of the service be formulated.

PELVIC INFECTIONS IN WOMEN

"Infection of the female genital tract in its various manifestations is the gynecologic condition most frequently encountered. Probably all aspects of cause, diagnosis and treatment have been covered many times and further writing may serve simply to restate facts already known. . . . Because of the importance to the patient of the viscera involved, constant thought should be given to improving the management of these cases. Therefore, it is probably wise occasionally to review the whole situation." Thus does Randall¹ open his discussion of this unending subject.

1. Randall, Lawrence M.: Pelvic Infections in Women, Med. Clinics of N. America, 23: 1041 (July) '39.

The author repeatedly stresses the need of "adequate conservative treatment of the *initial* attack" and warns that "when repeated exacerbations have occurred, and particularly when a patient has been definitely proved to be uncooperative, there is often little to be gained by conservatism." And, after making allowance for the patient's economic status, he places some of the blame upon doctors who fail to inform their patients adequately of the probable effects of poor or insufficient treatment. "If, in the course of careful discussion with the patient, the physician causes her to realize that subsequent genital dysfunction and pelvic pain, and ultimately surgical treatment, may be the end results of mismanagement of the *initial* infection, her cooperation should improve greatly."

Randall tells us that "the conservative medical management of all these infections is based on three principles: (1) absolute rest of the patient and the affected parts, (2) sufficient *time* for the rest and appropriate treatment to be effective, and (3) the production of local hyperemia and leukocytosis by local heating of the affected tissues. To these fundamentals may be added sedation, attention to the general condition of the patient (diet, hygiene and care of the bowels), and measures such as protein therapy that are directed toward improving the bodily reaction to the infective organism."

"In recent years foreign protein, the Elliott method, diathermy, artificial fever and, more recently, sulfanilamide have been used in the treatment of pelvic infections in women. Each of these measures has merit. Each no doubt has effected cure in cases of pelvic infection; combinations of these methods of treatment will result in a larger percentage of cures. In spite of these methods, following persistent, recurrent or chronic infection, the physician encounters such end results as dysmenorrhea, sterility, pelvic pain, or ovarian dysfunction, associated with atypical bleeding and amenorrhea. From many of the women concerned, it is not difficult to obtain a history of inadequate management of the *initial* episode of infection.

"The newer methods of treatment have not changed essentially the fundamental principles that have been mentioned. Any regimen of treatment will succeed only in direct proportion to the degree of adherence to the fundamentals. In other words, re-

sults will vary almost directly with the opportunity that is afforded the patient in causing and maintaining maximal arterial hyperemia within the pelvis. This hyperemia, in association with the resultant local leukocytosis, is the physician's best weapon. Bodily rest allows the hyperemia to increase in efficiency; the infection must be subjected to these conservative measures for a length of time sufficient to accomplish the purpose for which they were instituted."

Randall has done well to stress the need of adequate treatment instituted at once and most practitioners will agree that were such a procedure always carried out a much smaller percentage of women would come to surgical intervention. But, for many reasons, this cannot or will not be done and the old, dreary story of delay, neglect and inadequate or improper treatment, with the dreadful complications, will continue to be heard.

Few conditions tax the skill, judgment and patience of a practitioner more than does pelvic inflammatory disease. The victims frequently go from office to office, clamoring for quick relief by means of surgical intervention. Many of them are neurotic, either by constitutional make-up or as a result of their painful and debilitating infection. When to operate and when not to is often most difficult for a careful and conscientious physician to decide. But in general he will do well to heed Randall's advice that "conservative treatment of acute and subacute infections of the female genital tract naturally has taken precedence over surgical treatment, except when it becomes necessary to evacuate a collection of pus. . . . Definite and persistent fluctuation should be present, and in a region that is accessible to puncture, before drainage is attempted." And "periodically, papers appear in which the surgical treatment of acute salpingitis is advocated. I have heard this measure discussed at many gatherings and I have yet to hear a valid defense of such a procedure."

The Medical Society of the State of North Carolina has committed itself to the publication of a journal of its own under the editorial management of Dr. Wingate M. Johnson and an imposing board of associates. This new publication will make its bow on January 1, 1940. Money saved on the publication of its transactions and receipts from advertisements and a modest subscription price should guarantee its financial success.—*Ed. Virginia M. Monthly, November, 1939.*

Committee Contributions

PUBLIC RELATIONS

COOPERATIVE MEDICAL SERVICES IN WILCOX COUNTY

By

J. Paul Jones, M. D.
Camden, Alabama

Wilcox is a rural county, with a population of 24,880, eighty (80) per cent of which is colored. It has 3,644 tenant families and 903 landowners operating farms. For many years the county's economic condition has steadily grown worse, as it has only a few small industries besides farming. The Farm Security Administration has on its rolls at present 831 families comprising 5,881 individuals. The Department of Public Welfare has some 826 families in the CCC, WPA, NYA and on its old age and aid to the blind lists, etc.; comprising about 4,300 individuals who are dependent on its payroll for a meager living. Following the August 1939 floods, 738 families comprising 3,700 individuals applied to the Department of Public Welfare and other agencies for emergency relief, stating that their crops had been destroyed and that they had no food and no way of getting any. All this means that 2,395 families comprising about 13,976 individuals in the county are in such financial shape that, unless they have aid through some channel—federal, state, Red Cross or local, they will have no method of making a living this year. The Farm Security Administration reports that over 300 of its families lost all their crops, and in Gees Bend two-thirds or more of all the crops were destroyed. These have been cared for by additional FSA grants.

Nearly 90 per cent of the population of Wilcox County lives on farms and farms for a living. Years of crop failures, crop reductions, debt and one-crop practices have impoverished the people to such an extent that the majority of the tenant farmers can no longer make enough to buy the necessities of life, much less pay for medical care.

Recognizing this state of affairs, the physicians of Wilcox welcomed any method that would extend to these families medical care and to the physician aid in performing his duties, accepting the fact that some type of contract medicine or sickness insurance was inevitable if this group was to continue to have even emergency care. For four years

the profession of the county has been doing its best, first with the Rural Relief, then the Rural Resettlement, and now the Farm Security Administration, to formulate some plan that would at least partially solve the problem.

The Wilcox County Medical Society, composed of 9 active doctors, assisted by five physicians from other counties, is cooperating with the Farm Security Administration in two medical care plans during 1939; namely, (1) for the Gees Bend Homesteaders, and (2) for the entire county, exclusive of Gees Bend.

REPORT ON GEES BEND

In this particular project two Wilcox County physicians, because of their accessibility and interest, participate—Dr. J. Paul Jones of Camden and Dr. R. E. Dixon of Alberta.

The Pettway, Spurlin and Smith plantations form the Gees Bend Homestead, and together make up about 10,160 acres located in a bend of the Alabama River. All the families on the homestead are Negroes who have lived there all their lives. Isolated as they are by the Alabama River and poor transportation to near-by communities, they are very clannish and suspicious. Illiteracy and ignorance are the rule. Crimes are few and scattered. Diphtheria and smallpox were eradicated by mass inoculations several years ago. Venereal diseases are seldom found. The outstanding maladies are malaria, intestinal parasites, pneumonia and the usual diseases of childhood.

In 1938 the Farm Security Administration had 87 families in its Gees Bend cooperative; and in 1939, 84. There are 20 families living on the homestead who do not belong to the cooperative. Most are old age clients. All told there are 104 families or about 700 individuals in the project. In 1938 the Farm Security Administration built a clinic building and supplies an all-time Negro public health nurse who has labored and striven with the clients for two years. Though prenatal care and inoculations, as well as medical care and drugs, are available to the clients, they continue to use teas which they make of the hoof of the horse, snake grass, tobacco grass, mullen and "dirt dauber" nests; and call the nurse or doctor only when all home remedies have failed. Illegitimate babies are frequent, due in part to a custom

of many years' standing in Gees Bend that no woman can marry unless she has shown that she can have children.

The two physicians mentioned have supplied professional services and drugs to the homesteaders for the past two years under a separate contract with the Farm Security Administration. Before 1938 they had served the Gees Bend Homesteaders for many years and in large measure without pay. In their agreement each family selected a doctor for the year and paid him the sum contracted for. Each doctor agreed to furnish to his clients professional services and drugs, exclusive of major surgery and hospitalization. One holds a clinic weekly on the homestead and waits on all clients.

For the first year, the physicians concerned (Drs. Dixon and Jones) set a medical budget of \$15.00 per family. Finding this too small, they finally agreed in the second year upon a budget of \$15.00 for a family of 2, graduated up to a maximum of \$22.00 for large families. (This gave an average of \$20.00 per family.) Services rendered clients during the first year at regular fee bill charges were as follows:

328 clinic examinations (clinic open only 5 months)	\$ 328.00
242 office examinations	242.00
106 mileage visits and examinations @ \$8.50	901.00
10 minor surgery cases, fractures	50.00
3 major surgery cases, fractures	45.00
4 abnormal labor cases	100.00
5 x-rays	15.00
Drugs	524.00
	<hr/>
	\$2,205.00

Services rendered clients in the second year (1939) at regular fee bill charges were as follows:

1,278 clinic examinations	\$1,278.00
108 office calls	108.00
54 mileage visits and examinations, day @ \$8.50	459.00
3 mileage visits and examinations, night @ \$12.00	36.00
47 visits on the homestead @ \$3.00	141.00
4 abnormal labor cases	100.00
Drugs, dressings, supplies	611.70
	<hr/>
	\$2,733.70

They received as pay the first year \$1,305.00, or a return of 60 per cent; and for the second year \$1,620.00 or a return of 59 per cent.

Services rendered families the first year averaged \$25.34, and for the second year \$32.54.

In the period October 1, 1937-September 30, 1938, live births numbered 27 and deaths 6. Stillbirths numbered three and neonatal deaths one. In the succeeding twelve months there were 43 live births and 8 deaths; one stillbirth and three neonatal deaths. The oldest to die in the first referred to period of time was 104; in the second, 103.

Increase in services during the two years has been marked. For example, there were no tonsil operations in 1938; 17 in 1939. Fifty-three received toxoid in 1939 as opposed to 22 in 1938. Typhoid inoculations increased from 37 to 130, and smallpox vaccinations from 61 to 81. Hospital bills totaled \$586 in 1939. There were none in 1938. Prenatal cases increased from 20 to 36.

Recommendations: 1. That a thorough malaria control program be instituted at once to care for the increased incidence of the disease as a consequence of the August flood, and to prevent its recurrence next year. 2. That dental care be made available to the families of Gees Bend, either under contract or by having a dentist visit the clinic building and charge for needed services. 3. That the present fee schedule be kept for another year, and that an attempt be made to control excessive use of clinic by certain families; that methods of services as worked out be continued. 4. That another tonsil clinic be held next year.

In concluding this report on Gees Bend, it can be said that the Manager, Mr. W. A. Cammack, has cooperated fully; and that the families as a whole have not made undue demands.

REMAINDER OF THE COUNTY

In the remainder of the county, the Farm Security Administration has 748 families on its rolls. In the 1939 agreement with FSA the doctors of Wilcox agreed to furnish these families professional care, drugs and emergency obstetrics only, exclusive of major surgery and hospitalization, under practically the same contract as is recommended at the end of this paper for 1940, except for the medical budget change, addition of dental care, and suggested rehabilitation feature. Two of the doctors in Wilcox have about 386 FSA families on their lists, and have kept as accurate records as possible of services rendered and drugs furnished. These records show that in the first ten months of 1939 this group of families made 1,993 office calls, re-

ceived 222 mileage visits, had 80 minor surgical cases attended to, and were delivered of 18 babies—all of which, with \$1,690.35 for drugs, entailed \$6,119.25.

At this juncture, it will be interesting to give attention to a consideration of professional services rendered the 386 and 748 families at fee bill charges, averaged per family by quarters of 1939. These averages are as follows:

	386 Families	748 Families
First quarter	\$1.52	\$1.45
Second quarter	5.45	5.00
Third quarter	6.61	6.55
Fourth quarter (estimated)	7.20	7.00
Total	\$20.78	\$20.59

When total bills rendered are considered, the picture is found to be as follows:

	386 Families	748 Families
First quarter	\$ 587.95	\$1,083.00
Second quarter	2,106.50	3,700.00
Third quarter	2,552.05	4,901.40
Total	\$5,246.50	\$9,684.40
Fourth quarter (estimated)	\$3,000.00	\$5,900.00

On October 12, 1939, Wilcox County's co-operative fund showed deposits amounting to \$12,839.00. Deducting a 10 per cent emergency portion (\$1,283.90), an administrative fund of three per cent (\$385.00) and refunds of \$50.00, balance left to pay physicians and to furnish drugs totaled \$11,220.10.

During the first nine months of the county-wide service, \$7,887.00 was received of the \$9,684.40 billed—or about 82 per cent. However, under the agreement, there is a balance due of \$475.00, which should bring the percentage to 85. In the last three months of the year it is likely that the yield will not exceed 45 per cent, since bills rendered will approximate \$6,000.00 and there will be but \$2,778.00 to retire them. It would seem then that the annual average will run around a 75 per cent return on bills rendered.

A two-year average of family services in Gees Bend runs to \$28.94, where there is the advantage of a resident nurse, who handles many small complaints, does some obstetric work and helps in holding down the demand for medical services. It is felt, with all fairness, that there can be expected a family demand for medical services in Wilcox County next year that will average from \$30.00 to

\$35.00 per family, exclusive of surgery, hospital expenses and dental care.

Emergency hospitalization in the first nine months averaged \$2.22 a family. Even then many clients were unable to get absolutely necessary operations.

Payment of hospital bills and surgeons this year has not been easy. The emergency fund was not large enough to take care of surgeons' fees and often there was nothing with which to pay hospital bills. In the first nine months only 65 per cent of hospital bills were paid. Additional grants have been sought but thus far only promises have resulted from the requests. The need of rehabilitating operations is appalling.

A study of these families during the first three months of 1939 revealed that the demand for medical services was moderate. During the next three months the demand increased threefold, and in the third quarter it was five times that of the first three months. It is found that the white families have larger bills, demand more services, and, though they average only about one-eighth the total number of clients, their bills are larger than the average. In all these families the fact is clearly seen that their greatest need, after care for usual illnesses, childbirth and treatment for injuries, is correction of chronic defects and diseases, such as dental conditions, hernias, sequelae of childbirth, pelvic disorders, infected tonsils and syphilis. These disorders caused repeated visits to home and office. Consequently, the problem of the Farm Security clients in Wilcox County is not only one of emergency medical care but also one of physical rehabilitation. The need for correction of chronic disorders and diseases is as important and as urgent as medical care in emergencies and acute illness. Any plan of medical care agreed upon should include correction of these diseases or defects. Until they are corrected the individual will continue a drain on the medical care plan, the community, and the Farm Security Administration. These corrections could not all be done the first year of the agreement; but should be done if the program is to continue over a period of years.

There should be a meeting of either the entire medical society or the medical committee with the supervisor of the FSA at least once or twice each month. At that time the need of operations for clients should

be presented and, excepting emergencies, some effort should be made to control and refer patients to the hospital in an orderly fashion, so that the allotted amount of \$75.00 could be paid in each case; or, in case of insufficient funds, the Farm Security Administration should agree to request or make a grant in the individual cases to supplement the amount allotted out of the medical fund to the client to pay for medical care in hospitals.

As each doctor participating knew that he would receive only about \$1.25 per month for each family on his list, whether he worked for that family or not, he was assured of a certain fixed income. He was not inclined to dispense medicines or make calls unless they were necessary. All public health aid by health officer and nurse was used in these families to cut down demand for drugs and services. There has been very little or no friction between doctors over the working out of the plan. The clients have switched some as was to be expected, but our records show that the switch was not over 10%, and most of it was due to clients' misunderstanding of the plan.

It is felt that this proposed agreement, properly understood and actively enforced and pushed, can, to a great extent, fulfill the needs of our clients and ourselves. Having this in mind, it is suggested the following agreement be offered the Farm Security Administration for the year 1940, with the idea of rehabilitating these clients, as well as giving them medical care, and thereby partially solving the perplexing problems now confronting this group:

TENTATIVE AGREEMENT

In accordance with the general policies approved on January 12, 1938 by the Board of Censors of the Medical Association of the State of Alabama, relative to a plan for medical care for Farm Security Administration clients in the State of Alabama, the Wilcox County Medical Society will cooperate with and assist the Farm Security Administration in an effort to make available to its clients reasonably adequate medical services provided the principles and procedure outlined are adhered to.

1. That the Farm Security Administration lend to its clients participating in the proposed medical care program a specific amount or sum of money, the amount for a given family to be governed as far as possible by the estimated income of the family, its ability to pay, and the amount of medical service which will probably be needed. The following amounts shall be provided for each family participating in the medical service pro-

gram: \$25.00 for each family of two, for twelve months; and \$1.00 for each additional person, not to exceed a maximum of \$35.00 for the larger families. These fees will be for the calendar year beginning January 1, 1940 and ending December 31, 1940.

2. Each family is to select the physician it wishes to care for it for the year, and pay loan to trustee. Having selected a physician there can be no change of physician except for cause. Client may complain to the trustee, who shall clear up the difficulty. If he cannot, it is to be referred to the medical committee.

3. Each family unit is to consist of father, mother and unmarried children, and dependent relatives who live on the farm and who are in the loan plan. This does not include members of the family who are public workers and do not work on the farm all the time. Each pregnant woman shall be counted as two members of the family.

4. Where more than one family is included in one budget in the FSA program, each additional family is to pay the same sum as the family unit. For example, if a son or daughter marries during the year, such one immediately becomes another family unit and must secure a grant to receive services.

5. The FSA supervisor is to supply each family unit with a card showing family doctor chosen, name of head of family, and a list of dependents with their ages. This card is to be presented by the client when he wishes medical care, drugs, hospitalization, midwife or dental care.

6. The FSA is to supply the trustee with a list of families, showing family doctor chosen, number of dependents in family and amount of loan.

7. Funds loaned to families are to be deposited in Wilcox County banks, in the hands of a bonded trustee appointed by the Wilcox County Medical Society, subject to the approval of the Farm Security Administration.

8. The funds deposited for medical care are to be divided as follows: 3% for administrative costs, 22% for hospitalization, surgery, midwife bills, dental care and other charges under Articles 27-31; and 75% for doctors and drugs.

9. Each of these funds is to be kept in a separate account.

10. The cost of bonding the trustee, stenographic service and telephone are to be paid out of the 3% administrative fund. The balance is to be used to pay trustee for services rendered.

11. The amount set aside for emergency hospitalization, surgery, dental, midwife and special charges is to be deposited in a special fund. Only one-twelfth of this fund can be used in paying bills rendered each month. Any balance brought forward may be used in any succeeding month. Any balance at the end of the year is to be used in paying balances due on unpaid bills. Any residue is to be included in the next year's fund. In case surgical and hospital bills are larger in any case than the sum allotted to the case under Article 11, the FSA agrees to ask for a grant to make up the difference.

12. The amount any individual can use out of the emergency fund is to be limited to a maximum of \$75.00 in any one year, and any family

unit to \$150.00. The maximum amount in one year any family can demand from doctor is four times the family budget.

13. The trustee will pay no bills against the emergency fund unless the patient has been sent to the hospital by his family doctor. The bill must have his family doctor's approval and have been approved by the medical committee.

14. All bills against the emergency fund must be in the hands of the trustee by the tenth of the month to be paid that month.

15. All bills for midwife service and obstetric attention must show name of family and name of woman and have either a note from the local registrar of births or doctor attesting to birth and the approval of the medical committee.

16. All bills by doctors for obstetric attention or minor surgery must show name of family, date of service rendered and type of service and approval of the medical committee.

17. Dental bills must show name of family, name of patient and services rendered and approval of the medical committee.

18. The amount set aside for doctors and drugs (75%) is to be deposited in a special fund and paid out as follows: This sum is to be divided by the total number of families in the FSA medical plan, giving an average amount per family. Each month the individual doctor is to receive a check determined by the number of families on his list, times the average amount per family, divided by 12 (e. g., 40 families times \$20.00 divided by 12 equals \$66.66 per month).

19. Monthly checks are to be mailed to doctors by the trustee only after receiving a statement showing the name of the family, name of patient, diagnosis, services rendered, drugs furnished and total bill.

20. At this time, with the check, the trustee is to render an itemized statement to each physician participating and the supervisor of the FSA showing number of families each doctor is serving, services rendered by each doctor and amount paid each doctor. He is also to include names of those hospitalized, bills received for same, all other bills for midwife care, special charges and dental services; also showing amounts paid.

21. Any physician who is a member of the State Medical Association, in Wilcox or adjoining county, may participate in this medical care plan if his county has a FSA medical program, and the Wilcox County Medical Society is given reciprocity; and provided he signs this agreement or sends his written request to participate and abides by it. Any time a physician is dissatisfied he may withdraw and his clients select another physician.

22. In event there is excessive or unwarranted demand for professional care and drugs, the family may be dropped from the list of participating families by the physician, any unearned balance reverting to the FSA supervisor or trustee. This notice can be made in writing to client and trustee.

23. Each physician shall be provided by the trustee with a list of the clients who have selected him as their family doctor. This list must

show the head of the family, number and names of dependents and amount of loan.

24. Each physician shall have the right to reject any client on his list if in his judgment it is necessary. The client may then select another physician.

25. It is understood that the medical care or services provided by this agreement shall embrace services as would be performed by a family physician in the home of the client or in the office of the physician, including only emergency obstetrics and ordinary drugs. (Splints, biologics, x-rays and expensive drugs are not included.) Major surgery and hospitalization are not furnished by doctors but are to be taken care of under Articles 8-11-12.

26. The physicians participating agree to furnish adequate services in so far as they are physically able, but, as in private practice, reserve the right to postpone or turn down calls for services in illness or emergencies.

27. In each emergency obstetric case the doctor attending shall be paid the sum of \$25.00 out of the emergency fund, subject to Article 11.

28. In each fracture case requiring special splints, plaster casts or surgical attention, the doctor attending shall be paid the sum of \$15.00, subject to Article 11.

29. In each surgical case handled outside of a hospital where it is more than minor surgery, the doctor attending shall be paid the sum of \$15.00, subject to Article 11.

30. Each midwife attending a birth in the families of these clients on presentation of bill shall be paid in full the sum of \$3.00 as specified in Article 15 before other bills are prorated.

31. Dental services are understood to mean extraction of teeth and treatment of diseases of the gums and teeth. No dental plates or bridges are to be furnished.

32. All cases referred to a hospital will be given ward services only. In case private rooms are demanded, the client will have to pay for the difference.

33. A medical committee of three members is to be formed. One is to be a permanent chairman and two rotating members appointed by the president of the Wilcox County Medical Society. The duties of this committee shall be to check bills, adjust complaints and make any changes necessary in the plan to secure best results. This committee shall meet at least once a month, at the call of the chairman.

Amendment 1. In an emergency, when a client cannot get his selected physician because of the physician's illness, absence on vacation or business, or refusal to render service, the trustee is empowered to send a doctor, who shall be paid for the service rendered, and deduct the charges from the delinquent doctor's next monthly check.

Signed: _____
FSA Representative

Participating Physicians

ESSENTIAL FEATURES OF MEDICAL CARE
PLAN TO BE EXPLAINED TO CLIENTS BY THE
SUPERVISOR

1. Each family is to select a family doctor, and having chosen a doctor there may be no change of doctors except for cause. Complaints are to be made to the trustee.

2. Each family unit is to consist of a father, mother and unmarried children and dependent relatives who live on the farm and work on the farm but does not include members of the family who do public work, such as WPA, NYA and state and county jobs. Where more than one family is under one FSA budget, each additional family will pay the same sum as a family unit, and when this occurs during the year, as by marriage, a grant must be secured. Each pregnant mother is counted as two members.

3. Doctors agree to furnish professional services and ordinary drugs as clients are accustomed to receive in their homes and the doctor's office, but the plan does not include routine obstetric service. Dental service will consist of extraction and treatment of diseases of the teeth and gums. Midwife service is to be furnished when requested.

4. Each client must present a card given him by the FSA when he calls a doctor or visits his office; visits a dentist or calls a midwife. This card will show doctor's name, name of head of family and members in the family.

5. No surgery or hospitalization is to be furnished, unless client has an order from his family doctor. Ward bed service only is to be furnished. An individual can only use as much as \$75.00 per year for hospitalization and surgery. A family unit is limited to \$150.00, and doctor's bills are limited to four times the family budget.

6. If hospital and surgical bills run to more than \$75.00, then the client will have to get a grant from the FSA or pay the balance himself.

7. Expensive drugs, splints, x-rays and biologics are not furnished, and if found necessary to use will have to be paid for by the client.

8. If excessive demands or unreasonable use of the above services are made by a family, it may be dropped from the medical care plan and unused balance of medical budget returned.

ADDENDUM

Since the body of this paper was prepared, the Wilcox County Medical Society held a meeting November 10, 1939 with Dr. R. C. Williams, Medical Director of the FSA. He was accompanied by Messrs. Prewett and Tisdale, also of the FSA. We had already presented for their consideration a report and tentative program for 1940, closely resembling what has been outlined above.

We were complimented on the rehabilitation and dental care and other features of our suggested program; also on the evidence of excellent care given clients by the doctors who participated. However, we were given the impression that the FSA was not now in position, because of the limited funds available through this source, to give consideration to expanded programs for rehabilitation of existing physical defects. Al-

though the need of physical rehabilitation and dental care of these clients was recognized as quite necessary, the FSA was at present mainly interested in only reasonable medical care and ordinary drugs for these families in cases of acute illness and emergency surgery and accidents. Dr. Williams expressed the opinion that the FSA program of medical care was not primarily intended to care for chronic diseases such as heart disease, nephritis, tuberculosis, female disorders and diseases of that type. We were told that the unexpected demands on the FSA funds by reason of the floods rendered it impractical to make any increases in funds available for medical care and that they might have considerable difficulty in meeting the present minimum of \$14.00 to \$22.00.

Faced with these facts and opinions and wishing to continue some type of medical care to the FSA clients in 1940, the medical committee recommended the following changes in the 1939 agreement for consideration by the Wilcox County Medical Society. We realize that the changes suggested may cause much dissatisfaction unless carefully explained to clients by the supervisors and doctors.

RECOMMENDATIONS FOR 1940 AGREEMENT

1. Use 1939 agreement as a basis. Make the following changes:

2. Each family is to select a physician to care for it for the year. Having selected a doctor there may be no change of doctors except for cause. All complaints to be made to trustee, who shall bring the complaint before the County Board of Censors for adjudication.

3. Family unit to consist of father, mother and unmarried children, and dependent relatives who live on the farm and work on the farm, grandfather and grandmother included, when dependent. Married children and members of the family who have jobs, public working or with other governmental agencies, not to be covered.

4. Maximum amount of doctor and drug bill for any one family limited to 3 times family medical budget.

5. It is understood that medical services provided by this agreement will be restricted to reasonable medical care and ordinary drugs as would be furnished in physicians' offices and in clients' homes for acute illnesses and accidents. Emergency obstetrics, not routine obstetrical attention, to be furnished and to be paid for out of 10% emergency fund on basis of \$15.00 per case. Chronic cases (here the decision is left to the doctor as to what is chronic) are not to be treated.

6. It is understood that major surgery, hospital expense, dental care, biologics, splints and expensive drugs are not to be furnished, these being cared for by the FSA under grants to clients.

Maternal and Infant Welfare

SYPHILIS AND PREGNANCY

Approximately one-seventh of the expectant mothers attending the maternity clinics of Alabama have syphilis. The Negro inci-

dence is considerably higher than that of the white race which is about two per cent. It is generally conceded that 85% of syphilitic women when untreated during pregnancy will deliver syphilitic babies. With adequate treatment, less than 5% of the children will be syphilitic. Congenital or prenatal syphilis is preventable in 95% of the cases when treatment is started before the fifth month and given continuously until birth of the child. The cooperative committee advocates the following:

1. That any woman who has had syphilis should have treatment throughout *every* pregnancy regardless of the serologic tests or the amount of her previous treatment.

2. Treatment should start as soon as the pregnancy is diagnosed and not later than the fifth month to be most effective, but treatment should be given even when syphilis is discovered during the last few weeks of pregnancy.

3. Treatment should start and end with an arsenical, except in cases of an intolerance to arsenic. Fortunately, pregnant women tolerate antiluetic treatment better than non-pregnant women.

4. Treatment should begin after delivery as soon as the patient can return for it, provided previous treatment had been inadequate.

5. Every baby born of a syphilitic mother should be carefully examined when born and blood tests made every two weeks until the third month and thereafter every six months until two years of age. Treatment should be started immediately upon a diagnosis of syphilis.

The Problem of Maternity—Great as the improvement of recent years has been, there is still much to be done. The number of maternal deaths in the United States is even now about 10,000 per annum. Our country is still far behind many others in safeguarding maternity. Many women still come under care too late in pregnancy. Puerperal conditions continue to be among the leading causes of death for women in the childbearing ages. Between the ages 20 and 34, puerperal deaths are outranked only by tuberculosis. But the stage is set, as we have seen, for substantial and rapid improvement. It will be helpful in this connection to know where the problem is concentrated, among which groups of people, and in what areas of the country. That should help us to know where and how to concentrate our effort—to use the rifle rather than the shotgun, as has been our custom in the past to bring about effective results.—*Dublin, Am. J. Pub. Health, November, 1939.*

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF LABORATORIES

Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

OCTOBER 1939

Examination for diphtheria bacilli and Vincent's	1,726
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	804
Typhoid cultures (blood, feces and urine) ..	1,236
Examinations for malaria	2,759
Examinations for intestinal parasites	7,599
Serologic tests for syphilis (blood and spinal fluid)	20,114
Darkfield examinations	31
Examinations for gonococci	1,643
Examinations for tubercle bacilli	1,516
Examinations for Negri bodies (microscopic)	48
Water examinations (bacteriologic)	886
Milk examinations	2,013
Pneumococcus typing	39
Miscellaneous	855
<hr/> Total specimens	<hr/> 41,269

PNEUMOCOCCUS TYPING AGAIN

Some months ago the matter of pneumococcus typing was briefly discussed in this space. At this time further comments on the subject would seem to be indicated.

It has been pointed out previously that specimens of sputum should not be submitted for typing purposes unless a tentative diagnosis of lobar pneumonia has been made and the administration of specific serum is contemplated after the type of infecting organism has been established. This policy is still to be followed.

Within the past year newer methods of treating the pneumonias have been quite generally adopted with the result that in many cases chemotherapeutic agents have completely supplanted serum therapy. Unfortunately, however, not all cases of pneumonia are amenable to successful treatment with sulfapyridine; some patients fail to respond to the drug while others exhibit such toxic symptoms as to necessitate its withdrawal.

If drug therapy were possible in every individual case, the determination of the type of the infecting pneumococcus would be of academic interest only, but in view of the

practical limitations to chemotherapy typing is still indicated. It is strongly recommended, therefore, that physicians continue to submit early specimens from cases of lobar pneumonia—before the patient has had either serum or drug—so that the serologic type of the infecting organism may be determined.

In this way information may be obtained which will indicate the specific type of antiserum to be employed; either by itself alone, in combination with sulfapyridine, or in the event of failure of drug therapy.

A further and most compelling reason for the submission of specimens before the employment of chemotherapy is the fact that great difficulty is encountered in typing the pneumococcus, even though it is present in abundance, in the sputum of patients taking the drug. In many instances the laboratory is unable to type these organisms and, therefore, unable to give any indication as to the specific type of antiserum to be administered.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

A NEW TRAVELING UNIT FOR THE TREATMENT OF SYPHILIS

The problem of treating syphilis in rural areas is a difficult one to solve. Medical services may be available only at considerable distances and the economic status of the patient be such that weekly visits to a private physician or clinic impossible. This is particularly true of the Negro and in a considerable part of rural Alabama treatment has been prohibitive for the Negro tenant.

The United States Public Health Service and others have been interested for several years in finding a way to take treatment to the individual if the individual cannot come to the treatment. In Macon County one of the projects of the Julius Rosenwald Fund was established in 1930 and the experiment of mass treatment through clinics held at churches, schools, etc., was tried out. With the limited facilities of these locations, however, it was difficult to conduct physical examinations prior to treatment or to properly follow the patient during treatment. This

was particularly the case during the winter months.

The utilization of trailers was the next step and these have been used in other states. From the experience gained in field use has come the design of a truck body especially adapted to the diagnosis and treatment of syphilis and the United States Public Health Service has been able to construct a few of these. Alabama was fortunate enough to be allotted one of these trucks for a period of trial and it is now in operation.

It is a completely equipped clinic on wheels with all the requisites of a stationary clinic. Sterilizers, refrigeration, fans, running water, and examining space are all available and should enable the clinician to do modern therapy. Macon County again, with its high Negro population, has been selected for the inaugural program with, of course, the approval of the medical profession of that county. Careful cost records will be kept and the feasibility of this approach to the treatment of syphilis in rural areas will be evaluated.

SYPHILIS AND PREGNANCY

This subject has been discussed several times in the Journal but it appears there is need for further discussion.

Recently it was learned that a physician found a positive serologic test for syphilis in a pregnant woman in his practice. His advice was that she should not take any treatment for syphilis until after the baby was born. If the patient should follow the physician's advice, the chances are five out of six that her baby would be born syphilitic.

There is no doubt that the greatest blot in the present syphilis control program is the birth of syphilitic children. Congenital syphilis is preventable if the mother is treated before the fifth month of pregnancy. Yet many babies will be born with syphilis if pregnant women with syphilis are advised to wait until after delivery before beginning treatment.

NEXT MEETING
OF THE ASSOCIATION
BIRMINGHAM
APRIL 16-18, 1940

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

THE MACON COUNTY MATERNITY PROJECT

An appropriation from the Rosenwald Fund is being used in Macon County for the promotion of a project in maternal health. Health workers of the State and Macon County are cooperating with the personnel of the John A. Andrew Memorial Hospital at Tuskegee Institute to study the practicability of the project. The Macon County Board of Health approved the project and authorized the County Health Officer to act as director. We describe it for the information of the readers of the Journal.

Two beats have been selected in Macon County, Alabama, for this project. About 160 births are attended annually by registered midwives (grannies) in these beats. No physician lives in either beat and only one or two births are attended by a physician each year in both beats. The population of Beat No. 4 is 76 white and 3,067 colored and of Beat No. 5, 93 white and 1,760 colored or a combined total of 4,996.

The purpose of the service which has been agreed upon by all parties concerned in its sponsorship is to:

- a. Make childbearing safer,
- b. To give medical antepartum and postpartum supervision,
- c. To give antepartum and postpartum nursing supervision,
- d. To provide diagnostic facilities and hospital care for abnormal cases during pregnancy and labor,
- e. Demonstrate practicability of nurse-midwife service in a rural maternity program,
- f. To improve midwife delivery care through:

1. Supervision of midwives attending cases in Beats 4 and 5,
2. Teaching of midwives in classes,
3. Deliveries by nurse-midwives, and
- g. To provide care for infants.

The extent of the service is as follows:

- a. The two nurse-midwives to answer calls from physicians, registered midwives, and cases registered at the antepartum clinics who live in Beats 4 and 5,
- b. The medical service by the resident physician and nurse-midwife service is gratis to all attended in the home,

c. The hospital care for ten days will cost \$10.00 plus transportation cost, and

d. The nurse-midwives will be available for teaching midwives in Beats 4 and 5 and other midwife groups at the request of the County Health Officer.

Persons to be admitted to maternity clinic service and nurse-midwife services include known indigent cases, midwife cases and cases referred by local physicians.

Provision is made for the hospitalization, for at least eight days, of such cases as present abnormalities during the antepartum period or during labor. They are to be referred only by the attending physician.

The personnel for the project includes:

a. Local—

1. Macon County Health Officer, Director,
2. Resident physician, John A. Andrew Memorial Hospital, Tuskegee Institute,
3. Two nurse-midwives, and
4. Macon County Health Nurse.

b. Advisory Staff—

1. Obstetrician of the State Health Department,
2. Advisory Medical Director, East Alabama Health District,
3. Advisory Nurse-Midwife of the State Health Department, and
4. Advisory Nurse of general program of the East Alabama Health District.

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E., Director

EXPERIENCES OF POLLUTION IN PRIVATE WATER SUPPLIES

(In the September 1939 issue of the *Journal of the New England Water Works Association* several authors related interesting conditions of the pollution or contamination of water supplies from wells and springs. With the idea in mind that these descriptions would be interesting to others in Alabama who do not have access to this *Journal*, abstracts were made and are herewith presented.)

1. We have all heard it said that "a well is a well," but I hope to prove that there is a great deal more to establishing a water supply, the water from which is to be used for drinking and culinary purposes, than to penetrate the earth's surface and obtain a liquid that, to all appearances, is a safe water to drink. When we stop to consider what a safe water, which is one of the essentials of

life, means to us and the disastrous effect of an unsafe water, I believe that the obtaining and protection of such an essential is apparent.

Human nature is apparently so frail that, through thoughtlessness and generally not from lack of knowledge, many sources of water supply, which are naturally of good quality for human consumption, are contaminated either by improper protection from the entrance of surface drainage and foreign matter or by the disposal of sewage into the ground in the vicinity of the supply.

Generally, but not always, the two greatest factors in the pollution of water supplies can or could have been eliminated with very little added effort and expense. Probably the most important feature in planning or constructing a hospital, home, school, or camp, where a private water supply and sewage disposal works must be established, is to obtain the water supply first and then to dispose of the sewage in such a manner that there is no possibility that the source of water supply will become contaminated.

2. The first consideration in well development is the selection of a suitable location. It is important to choose a site removed as far as possible from sources of pollution as it is not possible to set any definite distance from a source of pollution as safe. The Report of the Committee on Ground Water Supplies of the Conference of State Sanitary Engineers has suggested 50 feet as a minimum for ideal conditions and 300 feet if the source of contamination is above the well. These figures are, of course, no guarantee of safety.

Such sources of pollution as cesspools and privies are usually given adequate consideration when locating wells, but near-by sewers are sometimes overlooked or believed to be tight. Sewers may not remain tight and are always potentially dangerous. A case of pollution from a broken sewer line occurred several years ago at an institution. A large dug well, properly curbed and covered, had furnished a safe source of water for many years. Periodic bacteriologic examinations had been satisfactory but suddenly showed the presence of coliform organisms. Investigation revealed a sewer line about 50 feet from the well. Chlorination was instituted and the sewer excavated. It was found that the sewer line close to the well had been constructed of iron and was still tight.

A break had occurred in the tile pipe beyond the iron section. While this was slightly higher than the well, the pollution had to travel about 90 feet through sand and gravel. This shows the uncertainty of natural filtration. The engineer of the institution introduced an element of humor, and perhaps more, by carefully repairing the sewer and then dumping stable manure around the pipe to prevent freezing. After the break was repaired, chlorination was continued on a permanent basis.

At a comparatively new state hospital the water supply is obtained from several 6-inch driven wells. When the supply was placed in use, the grading around the wells was not completed due to lack of funds. Coliform organisms in the well water were eventually traced to two wells close to a depression containing standing water. It was said that pumping on these wells, quickly but only temporarily, removed the surface water. In any event, filling the low area and raising the ground surface around the wells above possible flood levels apparently eliminated objectionable bacteria.

3. A spring used as a source of water supply for a country school was located in a wooded area on the slope of a hill. It was adequately protected from the entrance of surface drainage, and there were no sources of pollution in the immediate vicinity. The results of the analysis of a sample of water collected directly from the spring showed that the water contained 15 p.p.m. of nitrates, was hard but free from bacteria characteristic of pollution. Another sample of water collected from this source three years later and under the same title showed that the quality was practically the same. A thorough examination of the locality revealed that a large area on the slope of the hill above the spring was used for agricultural purposes, and an investigation disclosed that during certain seasons of the year a large amount of commercial fertilizer was applied to this land. While the drainage area directly tributary to the spring was relatively small, the results of the analyses indicated that the fertilizer used on the land above the spring no doubt affected the quality of the water.

Another interesting case is a dug well used as a source of water supply at a roadside stand in the southeasterly section of the state. This well is about 30 feet deep, the

walls of which consist of 36-inch tile pipe constructed with cement joints and extend above the surface of the ground. It is adequately covered, therefore excluding surface drainage and the entrance of foreign matter. There were apparently no sources of pollution in the immediate vicinity.

The results of the analysis show that the water had a distinctly unpleasant odor, was high in iron, contained a slight amount of oil but was free from bacteria characteristic of pollution. From the physical examination these results were unusual. On further investigation, it was discovered that located about 30 feet from the well was an abandoned pit, now filled with earth, into which drainings from automobile crank cases had previously been discharged into the ground. The water entering this well had become contaminated by the contents of this abandoned pit.

Another poor selection of a well site was in connection with the water supply proposed for a Boy Scout camp. This well was of the dug type about 15 feet in depth and terminating on ledge. The walls of the well consisted of 24-inch vitrified-clay pipe constructed with water-tight joints extending about 2 feet above the surface of the ground surmounted with a cover of matched lumber, through the center of which was placed a pitcher pump.

The camp, which consisted of one permanent building and a number of tents, was located on a flat area which sloped abruptly toward a lake. At the foot of this slope and within 30 feet of the lake the well was constructed. Approximately 150 feet from the well at an elevation about 45 feet higher than the ground at the well was a cesspool. This area was underlaid with ledge, which sloped toward the lake. The results of the analysis of a sample of water collected from this well show that the water was polluted and unsafe for domestic use. In this instance, the party responsible for the selection of the well site disregarded the fact that the area was underlaid with ledge which naturally sloped from the camp site toward the lake or from the cesspool to the location chosen for the well. This fact was very apparent as there were outcroppings in a number of places throughout the camp. As a matter of fact, the lake water in this instance was of better quality for domestic purposes than the water from the well.

A most interesting case is the pollution of a tubular well by the disposal of waste products placed on the surface of the ground at a point about 1,500 feet from the well. The well was approximately 100 feet deep, 90 feet being in rock. The casing extended approximately 4 feet into the rock and was sealed. Filter beds located adjacent to a swampy area and used for the disposal of waste products from a pharmaceutical plant proved to be the source of pollution. The waste products from this plant were discharged at intervals varying from 2 to 3 weeks. A line of levels run between the well and the disposal area showed that the top of the well was approximately 10 feet below the surface of the disposal area. Between the well and the disposal works was a large outcropping of ledge some 80 feet in height and approximately 800 feet in width, extending at right angles to a line between the two points.

There were no sources of pollution in the near vicinity of the well, but the water drawn from the well at certain intervals had a distinctly unpleasant and musty odor, and the results of the analyses did not indicate pollution from ordinary sources.

After a thorough investigation, it appeared that the disposal of waste from the plant already mentioned might possibly be a source of contamination. To verify this assumption, 100 grams of uranine dye were placed in a ditch near the edge of the disposal area. Sixteen days later traces of dye stuff were noted in the well water, and the following day a test skein of wool was dyed a pale yellow by water from one of the fixtures supplied with water from this well. Test skeins of wool were also dyed on the following four days. From the time the dye stuff was placed in the disposal area and for a period of twenty-two days thereafter one of the fixtures on the system was allowed to drip constantly. The results of these observations apparently established a connection between the disposal area and the tubular well.

Another interesting case was the source of supply for a proposed Civilian Conservation Corps camp site. This well was located in a wooded area near the edge of a swamp and remote from any dwellings; there were apparently no sources of pollution in the vicinity. The well was 6 inches in diameter and about 156 feet deep, the greater part of

which was in ledge. A 6-inch casing extended into the surface of the ledge was apparently sealed. This well was originally constructed to supply water for the operation of an illegal still. The still had been located in a camp some 400 feet from and on land about 40 feet higher than the ground at the surface of the well. The waste products from the still and sewage from the camp were disposed of in two pits, and these pits discharged into a trench some 150 feet long which extended along the side of the knoll on which the camp was located and at the nearest point about 400 feet from the well.

The results of the analysis of samples of water collected from this well show that the water had an unpleasant odor and contained a large number of bacteria characteristic of pollution. After a careful search, the disposal area, though fairly well camouflaged, was discovered, and the results of analyses of samples collected indicated that the pollution entering this well was apparently from this disposal area, the effluent of which entered the well through crevices in the ledge.

4. The control of the catchment area of surface water supplies to safeguard the quality of the water produced is generally accepted practice. The intake areas of ground water-works, too, may need attention if the quality of the water is to be preserved.

The ground water supply in question was developed by a manufacturing establishment requiring large quantities of water for cooling purposes. The municipal water supply was used during the winter, but draft was shifted to a series of wells in the summer to secure the benefit of cooler water. The wells varied in depth from 125 to 250 feet penetrating a 100-foot stratum of dark sand and gravel overlying fine white sand and gravel. The area in the immediate vicinity of the wells, therefore, was extremely permeable.

The well field gave satisfactory service for a number of years. The water was soft and low in iron. A mineral analysis showed about 70 p.p.m. of total solids with a loss on ignition of about 15%, 22 p.p.m. of hardness, and an iron content of less than 0.2 p.p.m.

During the fourth year of operation, troubles appeared in the water distribution system. Pipes became clogged by rustlike, but slimy, deposits and the efficiency of coolers

and condensers was greatly reduced. An examination of the supply by the author showed the presence in the water drawn from the wells of 6 p.p.m. of iron, 140 p.p.m. of hardness, and 240 p.p.m. of total solids, with a loss on ignition of about 40%. The free CO₂ content was 110 p.p.m. and the dissolved-oxygen saturation value equalled 45%. Since an airlift was employed for pumping, it is probable that the water entering the wells was actually devoid of oxygen and that the concentration of carbon dioxide was higher than the measured value.

Filtration of the water and microscopic examination showed the presence of but a small amount of amorphous matter. A black growth, about one-fourth-inch in thickness, covering the pipes of an ammonia condenser, however, proved to be a mass of iron bacteria—Crenothrix—together with amorphous matter and a few protozoa.

How could an originally satisfactory supply deteriorate to such an extent? The answer was found in a survey of the catchment area in the immediate vicinity of the well field. Here upon low-lying land was spread a mass of organic waste matter, largely spent wort, produced by the industry. The wastes were decomposing slowly and polluting the soil. That the products of decomposition actually penetrated to the wells in the water leaching into the ground was evidenced by the odor of the well water which was of exactly the same character as that of the organic waste products in the dump.

A. N. B.

REFERENCES

1. Possible Pollution of Private Water Supplies, by Ernest J. Sullivan.
2. Safeguards for Ground Water Supplies, by Leslie W. Sherman.
3. Possible Pollution of Private Water Supplies, by Ernest J. Sullivan.
4. Pollution of Industrial Ground Water Supply by Organic Waste Products, by Gordon M. Fair.

Mental Hygiene—The formation of mental habits insures the development of a growing maturity and a constructive outlook. Children are imitators, and as a rule they learn from others how to develop healthy habits. Many emotional problems are met in their early life each day, and they should meet these problems in such a way as to form the basis of a constructive philosophy of life. Because of the great variation in the personality make-up and the environment of children, no general rule, of course, can be stated that will bring about desirable reactions in each child in solving his daily problems.—*Darden, Virginia M. Monthly, November, 1939.*

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA 1939

	Sept.	Oct.	Estimated Expectancy Oct.
Typhoid	36	20	51
Typhus	62	44	48
Malaria	1698	1036	858
Smallpox	1	0	1
Measles	10	16	28
Scarlet fever	128	179	152
Whooping cough	117	116	56
Diphtheria	183	146	277
Influenza	77	129	83
Mumps	10	27	33
Poliomyelitis	3	4	6
Encephalitis	3	4	1
Chickenpox	7	12	22
Tetanus	4	5	7
Tuberculosis	284	249	267
Pellagra	32	25	30
Meningitis	2	10	6
Pneumonia	78	114	78
Syphilis	1399	1213	242
Chancroid	5	3	8
Gonorrhea	397	320	194
Ophthalmia neonatorum	0	0	1
Trachoma	0	0	0
Tularemia	1	0	0
Undulant fever	6	4	4
Dengue	0	0	0
Amebic dysentery	0	2	0
Cancer	166	133	0
Rabies—Human cases	1	0	0
Positive animal heads	15	11	—

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years. With the venereal diseases, clinic cases were not included prior to 1936.

Medical News

(Secretaries of county medical societies and other physicians will confer a favor by sending for this section of the Journal items of news relating to society activities.)

Meeting of the Southwestern Division of the Association at Atmore on December 12 was addressed by Dr. Chalmers Moore, Birmingham—Diagnosis of Brain Tumors; Dr. Vernon Stabler, Greenville—Pains Produced by Ovarian Cysts; Dr. Brannon Hubbard, Montgomery—The X-Ray Diagnosis of Acute Intestinal Obstruction; Dr. Emmett Frazer, Mobile—Treatment of Exstrophy of the Bladder by Ureteral Transplantation; and Dr. L. S. Hinton, Mobile—Divergent Squint.

Vice-President J. Paul Jones of Camden presided. The Escambia County Medical Society (Dr. J. O. Lisenby, President) was host to the Division.

* * *

Dr. Wallace A. Clyde, former chief of the pediatric staff of the Employees' Hospital, Fairfield, announces the opening of offices for the practice of pediatrics at 900 South 20th Street, Birmingham.

Winter meeting of the Northwestern Division of the Association (Dr. Merle Smith, Vice-President) was held at Parrish on December 7 with the Walker County Medical Society as host. Essayists included Drs. G. I. Jones, Washington, D. C.; J. A. Meadows, Karl Kesmodel, S. P. Wainwright and Gilbert Green, Birmingham; and T. F. Wickliffe, Jasper.

Service awards were presented Dr. C. B. Jackson (posthumous) and Dr. H. W. Stephenson.

* * *

On November 25th and 26th the Alabama Association of Medical Technicians held its first institute at the Medical School of the University of Alabama. Papers were given by Dr. Stuart Graves, Dr. Ralph McBurney and Dr. Emmett B. Carmichael of the University of Alabama; Miss Aimee Wilcox of the United States Public Health Service, and Dr. Samuel R. Damon, Director of Laboratories, State Department of Health; and laboratory demonstrations by Dr. Septima Smith, Dr. Henry Walker and Professor C. G. Breckenridge of the University of Alabama.

A business meeting closed the session at which time the following officers were elected: President—Miss Nelly K. Whitfield, Bureau of Laboratories, State Department of Health, Montgomery; Vice-President—Miss Madie Murphy, Birmingham; Secretary—Mrs. Fannie Mae Frank, Bureau of Laboratories, State Department of Health, Montgomery; and Treasurer—Miss Grace Twinning, Birmingham.

* * *

Fourth annual meeting of the New Orleans Graduate Medical Assembly will be held February 26-29, 1940. For information address the Secretary, 1430 Tulane Avenue, New Orleans.

* * *

The Southeastern Branch Society of the American Urological Association held its sixth annual meeting at Biloxi, December 8-9. Dr. J. Ullman Reeves, Mobile, is President and Dr. Walter Scott, Birmingham, a member of the Executive Committee.

* * *

The American Board of Ophthalmology announces that a written examination will be held in various cities throughout the country on March 2nd and will be the only written examination in 1940. All applica-

tions for this examination must be received before January 1st, 1940. Blanks may be procured from Dr. John Green, 6830 Waterman Avenue, St. Louis, Mo.

* * *

The Atlanta Graduate Medical Assembly announces its third annual session, opening on the evening of January fifteenth and extending through the afternoon of January nineteenth at the Biltmore Hotel, Atlanta. Queries may be addressed to the Secretary, 911 Medical Arts Building, Atlanta.

* * *

The officers of the United States Chapter of the International College of Surgeons cordially invite all physicians and surgeons in good standing to their Fourth Assembly, to be held in Venice, Florida, February 11-14, 1940. There is no registration fee.

For general information please address Dr. Fred H. Albee, Chairman, 57 West 57th Street, New York City. For information about the presentation of scientific papers or exhibits, query Dr. Charles H. Arnold, Secretary of the Scientific Assembly, Terminal Building, Lincoln, Nebraska.

* * *

The American Board of Obstetrics and Gynecology announces that the written examination and review of case histories (Part I) for Group B candidates will be held in the various cities of the United States and Canada on Saturday, January 6, 1940, at 2:00 P. M. Formal notice of the place of examination will be sent each candidate several weeks in advance of the examination date. No candidate will be admitted to examination whose examination fee has not been paid at the Secretary's office. Candidates who successfully complete the Part I examination proceed automatically to the Part II examination held in June 1940. Receipt of Group B applications for the current examination (January 6, 1940) closed October 4, 1939.

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted by the entire Board, meeting in Atlantic City, N. J., on June 8, 9, 10 and 11, 1940, immediately prior to the annual meeting of the American Medical Association in New York City.

Application for admission to Group A, Part II, examinations must be on file in the Secretary's office not later than March 15, 1940.

After January 1, 1942, there will be only one classification of candidates, and all will be required to take the Part I and Part II examinations.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

Book Abstracts and Reviews

Surgery of The Eye. By Meyer Weiner, M. D., and Bennett Y. Alvis, M. D., Professor and Assistant Professor, respectively, of Clinical Ophthalmology, Washington University School of Medicine, St. Louis. Cloth. Pp. 445, with 396 illustrations. Price, \$8.50. Philadelphia and London: W. B. Saunders and Company, 1939.

The publication of this book has been keenly anticipated by ophthalmologists, especially those who have come under the tutelage of its authors. Their well-known teaching ability and surgical skill are faithfully reflected in this volume.

The book does not purport to be an exhaustive reference work, setting forth all known methods of operative procedure. It is eminently practical, and acquaints the reader with the surgical procedures adopted by the authors after long experience. The book thus ideally serves the practicing ophthalmologist and the student of ophthalmology.

The work supplies what most books on ophthalmic surgery do not; that is, generosity of illustration. Thus the reader finds 396 illustrations for 403 pages of text. The illustrations were executed by the physician-artist, Dr. A. J. Hof-sommer, graduate of the Washington University School of Medicine, and are excellent. The attention to illustration has not been at the sacrifice of the text, the result being a perfect balance. Nothing is left to the imagination.

The first five chapters are devoted to general considerations, preparation of the patient, anesthesia, preoperative and postoperative care. A full chapter is confined to cataract and another to glaucoma in which the author's technic of Herbert's operation is described. Other chapters treat of operations on the retina, intraocular foreign bodies, operations on the cornea, removal of the eye, and operations on the conjunctiva. Two chapters cover surgical procedures on the lids and the socket. The last two chapters take up operations on the muscles of the eye and tear apparatus.

J. T. C.

Epidemiology in Country Practice. By William Norman Pickles, M. D. (Lond.), Aysgarth, Yorkshire. Cloth. Pp. 110. Price, \$2.50. Baltimore, Maryland: The Williams and Wilkins Company, 1939.

As a practitioner in a rural area in Yorkshire and as medical officer of health, the author has had the experiences common to rural practitioners everywhere in dealing with outbreaks of communicable disease. He has kept records of all cases and has been able to follow the spread of infection in a remarkable manner. In a rural area the contacts are limited and by careful inquiry it is usually possible to locate the source and other details, such as incubation period and

period of infectivity. In addition to the commoner diseases, outbreaks of Sonne dysentery, epidemic catarrhal jaundice and epidemic myalgia were encountered and are reported in this volume. The author writes in a clear, interesting manner and his material is extremely valuable. Much knowledge could be added concerning the epidemiology of communicable diseases if other practitioners would follow Dr. Pickles' example and the task would be an enjoyable one.

D. G. G.

Personal and Community Health. By C. E. Turner, A. M., Sc. D., Dr. P. H., Professor of Biology and Public Health, Massachusetts Institute of Technology. Fifth Edition. Cloth. Pp. 652. Price, \$3.00. St. Louis: The C. V. Mosby Company, 1939.

Several years ago one of the leading book publishing firms brought out a "Roosevelt Omnibus," purporting to contain practically everything of importance dealing with the life and achievements of the President of the United States up to that time.

One is reminded of that thick volume as one thumbs through the fifth and latest edition of Dr. Turner's heavy and heavily laden textbook on the health of the individual and of the community. For here is an omnibus of health, leaving about as little of its particular field uncovered as the hard-working author of the "Roosevelt Omnibus" did in the wider field of Rooseveltian biography.


There are 32 chapters and an appendix, and even the chapter headings are impressive of the thoroughgoing manner in which this author-professor has carried out his self-assigned task. There is a chapter on health values. There is one on nutrition. There are others on such a wide variety of subjects as digestion, oral hygiene, respiration, circulation, the skin, the organs of sense, the hygiene of the nervous system, mental hygiene, food hygiene, the hygiene of reproduction, narcotics, and stimulants, communicable diseases, the three great plagues (tuberculosis, syphilis and, surprisingly perhaps, the common cold), food control, water supply, waste disposal, ventilation, heating and lighting, etc. There is even a chapter on public health administration. When it is remembered that these 32 chapters average about 16 pages in length, it is easy to see that every subject discussed is gone into in a pretty efficient, businesslike manner.

"The field (of health instruction) is broad; the science is advancing rapidly; and the motivation of health knowledge into student behavior is difficult," Dr. Turner wrote in his preface. "These difficulties confront the writer of a textbook as well as the instructor in the course."

Thus the author shows that he approached his task with a full consciousness of the nature of the job he was undertaking. That realization no doubt guided his labors during the period of research and particularly while in the throes of composition. It shows in the finished work.

Dr. Turner has written primarily for the student of health, but "Personal and Community Health" deserves a wider public. It is hardly recommended as a competitor of the popular novel in interest, but it can be read by the serious minded and intellectually ambitious, not only with profit but also with pleasure.

J. M. G.



AIR RAID ON S.M.A.

Just Before the Can is Sealed . . .

To prevent oxidation or change in the physical or chemical composition of S.M.A., the atmosphere is exhausted from the container and is replaced with nitrogen which keeps the contents — S.M.A. — fresh and sweet in any climate.



The physical and chemical character of S.M.A. is always the same, providing a vitamin A, B₁, and D activity in each feeding that is constant throughout the year.

S.M.A. feedings are always uniform whether they are prepared in Maine or California.

NORMAL INFANTS RELISH S.M.A. — DIGEST IT EASILY AND THRIVE ON IT!

S. M. A. is a food for infants — derived from tuberculin tested cows' milk, the fat of which is replaced by animal and vegetable fats including biologically tested cod liver oil; with the addition of milk sugar and potassium chloride;



altogether forming an antirachitic food. When diluted according to directions, it is essentially similar to human milk in percentages of protein, fat, carbohydrate and ash, in chemical constants of the fat and in physical properties.

S.M.A. CORPORATION • 8100 McCORMICK BOULEVARD • CHICAGO, ILLINOIS

Miscellany

RESPIRATOR USED EIGHT YEARS BY VICTIM OF POLIOMYELITIS

Youth of Twenty-One Has Been Dependent on
Apparatus Since 1931 Epidemic, New
York Physician Reports

A report of the case of a youth, now 21 years old and a victim of the 1931 poliomyelitis (infantile paralysis) epidemic, who has been dependent on a respirator, at least during sleep, for eight years, is made by Scott Lord Smith, M. D., Poughkeepsie, N. Y., in *The Journal of the American Medical Association* for Nov. 11.

In addition to the paralysis, the youth has been through the vicissitudes of colds, hay fever, eczema and pneumonia, with all the problems involved in treating these ailments under such conditions.

With the exception of a small portion of the right side of the diaphragm practically all of the boy's voluntary muscles below the clavicle and the respiratory muscles were paralyzed.

In giving the yearly history of the case Dr. Smith states: "The boy was admitted in September 1931 to the Medical Service of Vassar Brothers Hospital on the fifth day of an acute illness. A diagnosis of poliomyelitis was made and confirmed.

"Twelve hours after admission, because of breathing difficulties, he was put in the respirator where he remained for seven months, at which time a gradual improvement was observed in that muscles, semi-voluntary in character, began to function, and the patient could spend some time each day out of the machine. The only lessening of the paralysis, however, was in the wrist and fingers of the left hand, in one finger of the right hand and in the flexing muscles of the left thigh. Movement was possible in these muscles only when the boy was in the bath.

"In September 1932 the boy could remain out of the respirator for eight or nine hours without undue fatigue. Outside the respirator he was never able to sleep and could eat but little without experiencing a sense of fullness.

"The second year was one of ups and downs. Dr. Drinker felt that it was important for the boy to regain self confidence and therefore advised that he be forced to

discontinue sleeping in the machine. It was hoped that fatigue would eventually induce natural sleep, but irritability, digestive upsets, loss of weight and complete exhaustion without sleep made us abandon attempts to force normal respiration during sleep.

"On June 16, 1933, the slowly built up ability to breathe with the auxiliary muscles suddenly ceased. In two weeks this muscular ability was again built up in the respirator. In a month he could breathe alone for twelve hours. The left scalenus (neck and head) muscle group developed and soon exceeded the right ones in strength. This condition has continued.

"In the early part of the third year the lost weight was regained. Thereafter, although there was no change in respiratory function, he did well on his regular routine and was in good spirits.

"In a station wagon which carried his wheel chair he took many rides about the country and often went to the movies. Being away from the respirator gave him no apprehension, and he was able to eat well outside. Hay fever and eczema, however, caused considerable distress, and symptoms of kidney stones began to appear.

"During the year 1935 he continued to show symptoms of kidney stone: pain in the right side of the back, blood in the urine, nausea and the passage of small 'gravel' by the urethra. In April he had pneumonia, with consolidation in the left lower lobe. For nearly two weeks there was irregular fever, pain in the left side of the chest and choking. Relief from thick mucus which he could not loosen was obtained by aspiration with a suction pump, oxygen was given through a nasal tube. Gradually he made a complete recovery.

"The fifth year was an uneventful one. An x-ray examination showed a stone in the right kidney and later stones appeared in the left kidney.

"In 1937, the sixth year, the chief changes were mental. In general he lost confidence in himself and was fearful of being at a distance from the respirator, so that he gave up his frequent trips. He lost his former belief in his eventual recovery and in the value of living. He maintained his interest in games he could play: cross-word puzzles, cards, checkers and chess.

"The seventh and eighth years were without new development. The loss of morale,

begun in the previous year, continued and increased. Through most of 1938 he did not leave the hospital grounds. There was increasing pain and blood in the urine from the kidney stones.

"Late in the fall of 1938, the signs of eye strain became apparent. Glasses, in addition to the correction in vision, caused an uplift in his morale.

"Constant twenty-four hour nursing attention was maintained from the first and we were unable to find any way to dispense with it or even combine the care of this boy with that of others. All changes in position of the body from the shoulders down had to be made by the nurse, and all parts exposed to pressure were kept cushioned with rings.

"As a means of maintaining a healthy condition of the skin the daily bath was begun as soon as respiratory function permitted. The old style portable typhoid tub served this purpose admirably. In addition the nurse had to feed him each mouthful; she also turned each page of the books he read and made the moves he indicated in

playing games. She remained constantly within earshot, because we were unable to arrange a call system, and speech for him was possible only during one phase of the respirator action. Nursing care was exceeded in importance only by mechanical respiration.

"The original respirator has been in service during the entire seven years, except for a period of two months when the motor blower exhaust was being replaced by bellows. These are much quieter and have the additional advantage of being operable by hand in an emergency. As fuses had blown out several times when continuous operation was necessary, the manual operation was reassuring to the patient and his attendants although its use has never been required.

"Deformities came on late and insidiously. A curvature of the spine to the side became apparent in 1932. This curvature has increased slowly in the last two years. Contractures of both hands appeared later and are stationary."

SILVER PICRATE *Wyeth's*

has shown a

CONVINCING RECORD OF EFFECTIVENESS *in ACUTE ANTERIOR URETHRITIS* *due to Neisseria gonorrhoeae*

The record is based on rigid clinical and laboratory signs before and after treatment.*

- | | |
|-----------------------------|------------------------------|
| 1. Fresh smear | 3. Acid formation in maltose |
| 2. Fermentation of dextrose | 4. Agglutination test |
| 5. Alkali solubility test | |

Silver Picrate is a crystalline compound of silver in definite chemical combination with picric acid. Dosage form for use in Anterior Urethritis: Wyeth's Silver Picrate Crystals used in an aqueous solution of 0.5 percent.

Supplied at all pharmacies in vials of 2 grams

Complete literature on Silver Picrate as used in genito-urinary and gynecological practice will be mailed on request.

JOHN WYETH AND BROTHER, INC. • PHILADELPHIA, PA.

*"Treatment of Acute Anterior Urethritis with Silver Picrate," Knight and Shelanski, AMERICAN JOURNAL OF SYPHILIS, GONORRHEA AND VENEREAL DISEASES, Vol. 23, No. 2, pages 201-206, March, 1939.



Westbrook Sanatorium

RICHMOND, VIRGINIA

Department for Women

P. V. Anderson, M. D.
E. H. Williams, M. D.
Rex Blankinship, M. D.

Department for Men

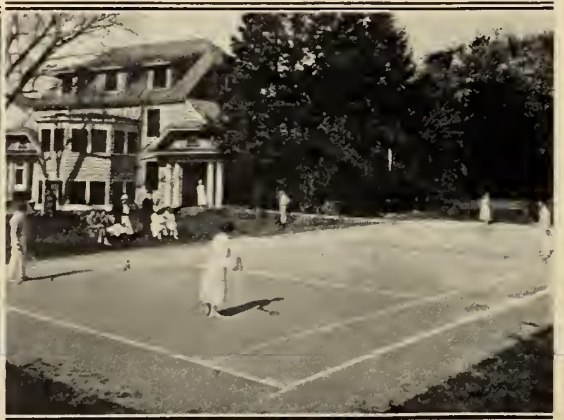
J. K. Hall, M. D.
O. B. Darden, M. D.
E. H. Alderman, M. D.

Westbrook is a spacious, beautiful and detached suburban estate, with twelve separate buildings and more than 125 rooms.

With a staff of six physicians, with facilities for comprehensive diagnostic study and for thorough treatment, physical and psychotherapeutic, highly individualized care of each patient is made possible.

At Westbrook the nervously unstable, the mentally unwell, and those in the grip of addiction to alcohol and to drugs are in a home away from home.

Descriptive data are available for physicians.



THE JOURNAL

of

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Published Under the Auspices of the Board of Censors

Vol. 9, No. 7

Montgomery, Alabama

January 1940

THE DIETARY MANAGEMENT OF DIABETES

By

E. G. GIVHAN, JR.
Birmingham, Ala.

The treatment of diabetes mellitus since the advent of insulin has been in a constant state of change and improvement. Many of the practices considered indispensable only a few years ago have now been discarded. It is the purpose of this paper to advance the proposition that, except in rarest instances, weighed diets are no longer necessary in the treatment of diabetes. When insulin first came into use the profession, confronted with something entirely new and profoundly impressed with its effect on the level of sugar in the blood, quickly grasped the idea that the carbohydrate intake should be measured in order that the dose of insulin could be fixed. They naively expected that once the insulin dose was regulated to a given carbohydrate intake the patient's blood sugar level would be free from marked fluctuations.

Although time has shown that this balance is easily upset up many and precarious influences, including even the state of the patient's mind, weighed diets are still advocated. To those physicians who glibly speak of giving their patients 180 grams of carbohydrates and 60 grams of fat, or the even more exact who prescribe 178 grams of carbohydrates and 59½ grams of fat, a bit of honest inquiry into the nature of the problem is suggested. If we recognize the variations in elemental content which foods from different sources and in different seasons present, the changes effected by different methods of cooking and the errors in measuring, is it a problem that lends itself to such exact figures? Can it be hoped to estimate an individual's caloric needs closer than plus or minus twenty per cent in view of the tremendous daily variations in metabolism, and do these not ultimately depend on the pa-

tient's weight gain or loss? And further, do patients submit to such exact measures?

It has been my experience that most patients, regardless of the care or source of their training, very soon substitute approximations and estimations which make the prescribed figures absurd. Parenthetically, these disaffections by the patients are not always due to carelessness or perverseness, but frequently they do not feel well on rigid diets and more often they recognize an honest execution of these diets as an insurmountable obstacle. The majority of patients soon arrive at a diet which is in effect a directed diet but in no sense measured. Finally, and this seems the most important consideration, are such measures necessary? The burden of proof seems to rest on the advocate of the measured diet, with its annoyance and the hazards that attend any artificial restriction of food intake, to show that the results obtained are better. For the past four years patients in my private practice have been treated successfully on a directed diet with no attempt made to measure the amount of food eaten.

The following is a copy of the dietary instructions given to all patients with slight alterations made for the individual case:

DIABETIC DIET

Allowed

1. Vegetables as desired.

Select from the following:

(1) 5 per cent—lettuce, cucumbers, spinach, asparagus, rhubarb, endive, marrow, sorrel, sauerkraut, beet greens, dandelions, Swiss chard, celery, mushrooms, tomatoes, watercress, sea kale, cauliflower, eggplant, cabbage, radishes, leeks, string beans (very young), broccoli, artichokes (French), kohlrabi, green peppers, summer squash.

(2) 10 per cent—string beans, Brussels sprouts, pumpkin, turnips, squash, okra, beets, carrots, onions, green peas (very young).

(3) 15 per cent—green peas, artichokes (Jerusalem), parsnips, Lima beans (very young).

- (4) 20 per cent—in small portions—potatoes, shell beans, baked beans, Lima beans, green corn, boiled rice, boiled macaroni.
2. Meats—any lean meat as desired.
3. Fish as desired.
4. Eggs as desired.
5. Cheese.
6. Bread—one or two pieces of bread at each meal as directed by physician.
7. Drinks—coffee or tea with saccharin tablets. May drink a small glass of milk at meals.
8. Desserts: gelatin, small portion of 5 per cent or 10 per cent fruits, such as grapefruit, grapefruit juice (no sugar), muskmelon, cantaloup or honeydew, lemons, blackberries (uncooked), cranberries (uncooked), gooseberries, orange, orange juice, peach, pineapple, strawberries, watermelon.

Not allowed

1. Candy, syrups, concentrated sweets, sugar.
2. Pies, cake, pastries. Almost all desserts are rich in carbohydrates.
3. Any fat meat, butter, cream, nuts, olive oil, or oily dressing such as mayonnaise.

Rules for eating

1. Eat three moderately sized meals each day.
2. Try to eat meals at regular intervals.
3. Avoid eating extremely large meals.

On examination of the above it is seen that in effect it is a high carbohydrate, low fat diet. That such liberal dietary measures can now be used successfully is probably because the high carbohydrate, low fat principle has been incorporated in the diet. The principle is widely accepted. Its advantages are many. The incidence of coma has been greatly reduced. Such diets are easily prepared and palatable to most patients. They lend themselves readily to the alterations which must be made when the digestive apparatus is hampered by disease. The patient's tolerance for carbohydrates is increased,^{1, 2} and perhaps because of this and because of an increased carbohydrate store in the body he is spared marked fluctuations in blood sugar with possible insulin shock or coma. Since the above diet was planned under the high carbohydrate principle it may seem inconsistent that candy, syrup and sugar are not allowed. These are restricted for two reasons: first, to minimize the possibility of sudden rises in blood sugar with spilling of sugar in the urine; and, second, to aid in bringing about moderate undernutrition or

rather to avoid overnutrition. The latter will be discussed more fully in the paragraph on caloric intake.

Fat in the above diet has been greatly reduced. The allowance of milk and cheese with their fat content may seem inconsistent with a restriction of fat. However, it is not possible or advisable to eliminate fat entirely. These foods were allowed to make the diet as complete as possible and to make some provision for the fat soluble vitamins, although the latter may smack of the gunshot methods that characterize so many of our prescriptions for vitamins.

No attempt has been made to measure the patient's caloric intake. The patient's sense of satiety governs the amount of the allowed foods which he eats. By restricting the intake of fats and of concentrated sweets the diet tends to effect a moderate undernutrition or rather to avoid overnutrition. The patient's weight curve is the index to whether or not he is getting sufficient calories. For obese patients the 20 per cent vegetables are placed under the avoid list and the bread intake is limited to one piece at each meal. For underweight patients the 20 per cent vegetables are left in the allowed list and the limiting "in small portions" removed and the bread allowance for each meal increased to two pieces.

So far this diet has been successful. After placing the patient on this diet there has been no difficulty in gradually increasing the daily insulin intake to the point that the majority of the urine specimens are sugar free and all are free from acetone and diacetic acid. These urinary findings, a sense of feeling well in the patient, and the general physical signs which we associate with good health have been accepted as the criteria of successful treatment. An occasional blood sugar examination is made but it has not seemed of particular value in cases without acute manifestations or complications. The practice of having a patient return each week or each month for this single and momentary observation of his blood sugar, with dire prognostications and scoldings if the reading is 196, and congratulations and glee if it is 136, has been impossible to sanction.

No patients who have been on the diet have developed coma due to acidosis. Two patients developed acidosis of moderate degree. One suffered from an esophageal foreign body, which was undiagnosed in his lo-

1. Himsworth, H. P.: The Physiological Activation of Insulin, Clin. Sc. 1: 1-38 (July) 1933.

2. Himsworth, H. P.: The Dietary Factor Determining the Glucose Tolerance and Sensitivity to Insulin of Healthy Men, Clin. Sc. 1: 251-264 (November) 1934.

cal community for three days. On the third day inflammation around the foreign body had reduced his food intake to very small amounts of liquid, and he came in for advice because all of his urine specimens were showing sugar. Recovery promptly followed removal of the foreign body. The second case was an elderly man who developed acute retention of urine due to an enlarged prostate. This case died due to renal failure. The question might be raised as to the part hyperglycemia, which was present when he was first seen, played in the renal failure. This was promptly corrected and it was the opinion of the hospital staff that he died of renal failure. Several patients have undergone major operative procedures with only transitory appearance of acetone and diacetic acid in the urine.

Insulin reactions have not been severe. Only one patient has needed intravenous glucose to be revived. She was extremely emaciated and suffered a complicating exophthalmic goitre. Viewed with a more experienced eye it is quite evident that the efforts to render her sugar free were much too hurried. No patients have developed the annoying habit of shifting rapidly from insulin shock to severe hyperglycemia and acidosis which would label them as "brittle diabetics." It is possible that this annoying trait can be forestalled if the physician in charge will not be overzealous in rendering the patients just beginning treatment sugar free, and if the patient's carbohydrate reserve and carbohydrate tolerance are kept at top levels by a high carbohydrate diet.

It is impossible to state what effect such liberal measures will have on the development of arteriosclerosis. Several patients have been placed on the diet who had arteriosclerotic manifestations, such as gangrenous toes and plantar ulcers. It is impossible to set any standard for the progress of the gangrenous areas, but the diabetes could be brought under control with the diet and insulin, provided the infection was not too great. It seems reasonable to expect healing in a gangrenous or infected area to be more likely provided the patient's general condition can be kept at a safe state. Certainly the tendency to acidosis is minimized in these cases with a high carbohydrate diet. Again, I repeat that when such patients are febrile, carbohydrates are the most easily assimilated. Finally, weighed diets seem particularly

absurd during such emergencies. The amount the patient can or will eat varies tremendously with the degree and discomfort of his illness, and the physician is fortunate if he can get him to eat anything at all.

The patient's reaction to such liberal measures might be subject to question. The criticism might be offered that such a diet would encourage a patient to be careless or lax in the care of his illness. However, it seems better psychology to give the patient instructions which he will carry out rather than such that he will immediately begin to make compromises or adjustments. The proponent of this objection would, I assume, take the position that the patient should be instructed in the most rigid care, admitting that he would be forced to make compromises. This criticism might be offered, that the diet is too simple and its success depends on too much intelligence on the part of the patient. However, nothing seems more direct or specific than the words allowed and not allowed. One of my associates, who is internist for one of the large industrial companies of Birmingham employing a number of Negroes, has used the diet for two years. At present he has sixteen Negroes under treatment and as yet there have been no difficulties. The simplicity may in a measure account for its success. Patients frequently express a dread and uncertainty over measuring their food the remainder of their lives. Anything to give them peace of mind and make the disease less burdensome aids in the actual control of the disease. In the past it was not uncommon to find doctors prostrate before the complexities of caloric requirement and daily food allowance. The doctor could shift the burden by sending the patient to a diabetes specialist, but the poor patient was faced with a complex and intricate rule for living which he must follow for life. Fortunately most of them in their inherent wisdom eased up on the rule.

SUMMARY

A dietary plan suitable for diabetics is presented. The principles involved are discussed and a brief polemic for its advisability is advanced.

"Bed wetting may be a sign of diabetes in children. Among older people boils and carbuncles may be the first sign."

AMERICAN MEDICINE*

By

M. S. DAVIE, M. D.

Dothan, Alabama

No honor of its kind could be more highly appreciated by me than the distinction of being invited to deliver the William J. Love Address today. I shall not actually pass this hour again, but while memory lasts it will linger in my heart.

I wish that I might dwell upon the inspiration I have received from knowing about the things Dr. Love stood for, but in obeisance to Time, most relentless of the dictators, I pass on.

The Secretary of the American Medical Association has stated that the "one central thought which dominates the organized medical profession in the United States is to see to it that the public interest shall be served."

Lest in an effort to speak fairly, I may appear to speak paradoxically, I proclaim my identity and tenets:

I am a "Roman citizen by birth." I am a doctor and the son of a doctor. I am an orthodox believer in the canons of organized medicine. I believe in protecting the morale and preserving the initiative of the individual physician. I believe in giving economic security to the individual physician and in safeguarding him from political interference. I believe we should make available to the entire citizenry the resources of scientific medicine. I believe in a fee-for-service basis. I believe in "faith, hope, charity, these three." I belong.

I also believe that we should attack our problems frankly and fearlessly. That we should not tolerate special pleading. That we should resent propaganda. That we should practice team-work of the right kind and under the right leaders.

All revolutionary events are but the culmination of an evolutionary process. Students of history know that Europe has been struggling with the health problem for fifty years. Today twenty-five countries with a population of more than a half billion people have compulsory insurance for all or part of their workers. The only major nations remaining without compulsory health

insurance benefits are China, India and the United States.

The American College of Surgeons failed to accept the Ten Commandments of the American Medical Association, but adopted a much more liberal position of their own, and the American Hospital Association endorsed group hospitalization. This is definite inefficiency and grievous lack of team-work. There are 169,000 physicians in active practice in the United States and about two-thirds of them are members of the American Medical Association or organized medicine. There are at least one and one-half million members in health service. The voice of organized medicine is not the voice of American medicine.

American medicine, of course, could not function without the physician. Neither could the physician function without the 550,000 hospital employes, the 200,000 trained nurses, the 100,000 pharmacists and manufacturers of drugs, medicines, and medical equipment, and the personnel of the clinical laboratories.

It is estimated that we have about 135,000 secular practitioners in the United States, and since no cooperative arrangement would be likely to include them, they use their influence against anything of the kind.

Seventy-five years ago the American doctor was American medicine, for all practical purposes. Today the medical profession is only one in many professions, crafts and trades involved in the health service. Moreover, "organized medicine" tends to represent a particular group within the profession, namely, the distributor to practice independently and competitively on a fee-for-service basis. But this group in turn is divided between an overpaid few at the top and an underpaid many at the bottom.

The resources of this country are amply sufficient to take care of doctor and public in a manner fair and satisfactory to both, but the time has come when the sociologic side of medicine must be coordinated with its technological resources.

The question is, shall the doctor supervise the perfection of the new arrangements and establish himself in the position to which he is entitled; or shall he do nothing and allow judgment against him by default, thus becoming the hireling of the system? His decision must be made now.

*The W. J. Love Memorial Address delivered before the Chattahoochee Valley Medical Association, Radium Springs, Albany, Georgia, July 12, 1939.

The right to medical care is conceded today in all civilized countries. It is accepted that the health of every individual is a social concern and responsibility, and that medical care in its widest sense for every individual is an essential condition of maximum efficiency and happiness in a civilized community.

There is no country in the world which has given so much lip service to the right to health as this country. Yet, "there is also no civilized country which in proportion to its observations has failed so badly in the organization of its health services; none which has exhibited so violent a contradiction between the official make-believe of organized medicine and the facts of life as experienced by the vast majority of the population."

"Last year there were more than eight hundred deaths in Georgia without an attending physician, while thousands of people suffered with typhoid fever, malaria, tuberculosis, cancer, appendicitis, etc., and we were unable to get a doctor or hospital attendance. The government recognizes its responsibility to the public and is making an attempt to correct these errors."

New York City, with its relatively early attack on public health problems, reduced its death rate 60 per cent in 50 years, whereas the country as a whole achieved only a 25 per cent reduction.

"The ordinary expenditures actually made in the United States amount to thirty dollars per person for the entire population. Thus, the cost of a complete program of good medical care is not much greater than the sum we ordinarily spend. The greatest need is not to find money for the purchase of medical care, but to find newer and better ways of budgeting the costs and spending the money wisely and effectively."

"Well designed and non-politically controlled organizations could effect tremendous economies. (Quoted from Dr. Ray Lyman Wilbur.) The lack of adequate medical services lays a burden of pain, suffering and inefficiency on the nation which, rich as it is, exceeds what we can afford. The question which faces the American people during the next ten years is not whether we can afford to provide ourselves with satisfactory medical service, but rather whether we can provide less than adequate medical care."

"In general, it may be said that no country, once having adopted compulsory health insurance, has ever abandoned it; that the tendency is to increase the scope of the system, particularly to include dependents of the insured workers; that systems of voluntary health insurance—including the Danish system—tend to be modified by compulsory features and increased participation by the state."

It seems evident that the time has come when the rank and file must speak out. It has been correctly said that modern medicine has seriously outgrown the structure erected to house it. No one knows exactly who has been doing the thinking for modern society, but it has reached some conclusions touching the care of the sick and prevention of disease which it is either going to try out or trade them for something which it thinks is better.

Many of the able men who went overseas and organized group teams over there were impressed with the wonderful work American doctors could and did do, when they got themselves together. That was an example of full-time medicine in high gear that provoked the admiration of the world. It was the first time the sociologic side of medicine had ever been integrated to its technological equipment.

Progress in medicine during the last fifty years has been comparable with that in any other line, but this has not been true in the business, political, social and economic sides of this calling. "And so today the medical profession of the United States is at the cross roads." We have failed to develop administrators while we were developing doctors. Now we are all dressed up and we want to find somewhere to go. The depression came and we rendered professional services to twelve million jobless men who could not pay. We were confronted with a fact, not a theory. The community gave them food, clothing and shelter, but we did not ask the community to give them hospitalization and professional services, until we were overwhelmed, and then only in part. When the sunlight was turned on it was found that vast numbers, both urban and rural, were receiving little or no medical attention when they were sick. An unbelievable discovery to profession and public.

The American Medical Association has done a Herculean job in many lines and for

which too much praise cannot be given. But the doctor has not learned all of the practical things of life. Correct practice of medicine today costs too much in money and men. It is a luxury. Neither doctor nor patient can afford it—meticulous examination, diagnosis of patient on findings, the types of treatment required in many cases. The rich are still enduring it, though under protests, but the poor are out on a limb. The doctor is between Scylla and Charybdis. If he applies business rules he becomes an outcast, and if he does not he becomes a bankrupt.

Official agencies of organized medicine should make it their concern to see that all things relating to the same should become knowledge to the profession. No effort should be made to force conclusions in any manner at variance with facts. It should be remembered that the only fixed law of life is the law of change. At the same time it should never be forgotten that nothing can be right that is wrong. The basic equities may be to an extent adaptive, but they are essentially unchangeable. It is most unfortunate that the average doctor does not comprehend the underlying forces that are at work. He is told that socialized medicine is about to get him into its clutches and that this will take the bread out of his mouth. That socialized medicine will probably be a disastrous thing, forcing physicians into the employ of the state and making them victims of the machinations of the politicians.

But, as stated by Dr. Wiley D. Forbes in his Chairman's Address last year: "The increasing demand upon our profession for aid in matters which affect the economic status of our people is little by little forcing us from behind our screens of mystery and demanding that we meet the problems of economic life as men of other professions do. We are rapidly coming to the point where we must think through our problems or else be publicly discredited. Superficiality will no longer satisfy a public which daily increases in knowledge and critique."

The success of preventive medicine, which is going to be more and more pronounced, will force radical changes in curative medicine. Those in general practice will be compelled to revamp their methods in many ways. They must qualify in nutrition and diagnosis, for example.

It is the duty of every physician to see that ethics are not used as a cloak for the weak-

ness or irregularity of the physician, rather than for the protection of equity. It will be impossible for the individual physician to survive unless he has protection, adequate protection, together with a certain immunity. The ethics of the profession give him both.

The pioneer of the United States was a rugged individual of necessity. The old law of survival is a matter of service. That system which can best serve us is the one which will survive. But life is competitive and no inefficient system can ultimately endure.

It has been said that formal group practice began as an outgrowth of the experience that physicians had during the war, but the redevelopment came in response to the economic depression. With general income declining, and doctors fighting for survival, the thought of overhead reductions and lower costs service, was inevitable, and that group organizations were but an evolution of this idea.

The outstanding example of cooperative group work is the Mayo Clinic, which was started in 1882. Similar small groups are to be found in all parts of the country. The form of their set-up varies somewhat, some being corporations with stock owned by the originators and staff members. All work is on a salary basis, and laymen are frequently employed as business managers. The larger groups own and operate their own hospital, or control a hospital owned and operated by others. They are doing volume work and the patients seem to be pleased. The personal relationship between the doctor and patient is at a minimum in this kind of clinic, nor does the patient have much choice as to who shall render service to him. But, rather strange to say, very little complaint is heard on that score. There is no protest voiced by organized medicine over these clinics. The Lahey Clinic of Boston is an example.

Another type of set-up is the small group, urban or rural, which has a more or less thorough coverage, and is housed in one building with its offices, laboratories, including x-rays, where the patient is given his card, goes to the historian, and then on from there. For the diagnostic findings there is a fixed charge, and then the patient is turned over to the member of the group under which his diagnosis falls and from which he receives treatment. Fees are all listed and the bill is rendered for the same as they go along. The group may have a salary which is paid in

whole or in part at the end of each month according to the condition of the treasury, and the end of the calendar year closing the books. Any surplus may be divided or put into a sinking fund. The deficiencies are charged off permanently or chalked up for future consideration. Organized medicine has not registered any protest against this group.

There are many avenues of medical approach that have yet to be explored, and it should be quite possible to develop a need for more doctors than we now have.

The welfare of the sick is the prime consideration, and only after this consideration should compensation be calculated. It is thought that some type of group practice is here to stay, and the doctor's only part will be in determining what type he will have. It is thought that otherwise the government will take things over. The only way around this unhappy, disastrous situation is to convince the public of a better plan.

Should we bow to the philosophy of expedience, accept the inevitable and say to these people "furnish the money and we will give you a plan that will take care of all angles of this situation with the taxpayer's money? You are doing everything else with his money and we will furnish you a system that will save his money, increase his physical thrift, and thereby enhance his efficiency and his income?"

The public and the government feel that the people have insufficient medical care. They have the whip hand. Also they are dealing the cards.

Of course, in the last analysis, everything is made or marred by the human factor, but the diagnosis of today, and more so of tomorrow, is largely an affair of mechanism. John B. Murphy and Alexis Carrel are in accord in their point of view relating to this matter. Murphy said the doctor of today was making diagnosis with brains, and the batting average was higher with the pioneers. Carrel says, in effect, that man cannot survive modern civilization because of the gadgets which are depriving him of the need for thought. Of course, he cannot keep what he does not use, and he cannot transmit what he does not have.

However, it is not to be forgotten that, for those who once learn the code, the patient speaks a language which the x-ray and microscope cannot transmute, and which

may be the key to the situation. Osler believed that a case history skillfully taken and studied with eyes, ears, and mind on the patient was still the most successful way to make a diagnosis. No one should discount the gadget, but it must not be allowed to do your thinking to the contradiction of what your patient clinically is trying to tell you.

All these things are to be considered and thrown into the melting pot. Organized medicine has much to think about, and events are moving at a swift tempo. The time has come for serious deliberation. But a patient hearing must be given to contestants who are clamoring to get into court.

Some think it would be well for organized medicine to give more serious consideration to the business clinic. The largest clinic we have in this country is of this type and seems to have maintained harmonious relationship with organized medicine. This clinic seems to have successfully met the demands of both idealists and pragmatists. It has allowed the rich man to pay the tariff and the poor man to receive the same skill. It has a foundation of its own and has carried on creditable research work. It is the Mecca of scientists, and members of its staff are honored guests at any scientific body or meeting. It has totally abolished the physician-patient fee-for-service system or relationship.

Some of the most thorough students of these problems are of the opinion that national health insurance is inevitable, and that physicians should recognize this fact without more ado. By not recognizing it and taking it in hand quickly, the pattern for its set-up will pass out of their hands. Stability of income, freedom from financial worry, freedom from cut-throat competition, and certain other complications are some of the results which the doctors in England who are engaged in health insurance work seem to have escaped, and with it they seem to be well pleased.

The American Medical Association is the largest medical society in the world, having some ninety thousand employees, publishing a journal with a circulation of some one hundred thousand, which goes into every part of the land. The President of this Association should be an outstanding leader of the medical profession, but under existing circumstances he can only be a figurehead. The office is purely honorary and no man can be reelected. It is impossible for him to have

any voice in the running of the Association. Before he can orient the situation his term of office has expired. Therefore, it has come about that the American Medical Association is being run by one man. And the American Medical Association is big business. There is nothing comparable to this in all the annals of the medical past. No other organization of scope has been so tragically undermanned.

It is also true that organized medicine has no place in any of its official literature, nor in any of its open meetings for discussion of any but the scientific phases of its affair. Nor is there an open forum for the consideration of social or economic questions relating to medicine. Nor is there a journal or paper in the profession devoted to anything of this kind.

It is assumed that all here are familiar with the activities of the 430 Committee of Physicians and with their four principles and nine proposals, and we will not give them consideration here.

The National Health Conference in Washington last summer focused the attention of the country upon all phases of curative and preventive medicine in our land. All of the accumulated data at that time, and all of the surveys since that time, have demonstrated the situation that the government and the public are displeased with the present state of affairs and seem to be determined to have them changed. At least we now know what medical conditions are in the United States. One-third of our population has no medical service, or in a few instances inadequate service. The second one-third has an income which does not exceed fifteen hundred dollars and it cannot pay for adequate medical care.

This situation is attracting much attention because we have more doctors per capita than any other country, and a technological set-up vastly superior to any other country. We have now medical schools and research groups that are certainly equal to, if not superior to, those of any other country.

So we have an A-1 personnel and technical equipment, and still large sections of our citizens have no, or insufficient, medical care. Eliminating humanitarian considerations and analyzing the matter as a problem in economics, we find that this country "loses every year ten billion dollars as the result of illness, and that our population

spends 3.7 billion dollars for medical care. Every wage earner loses annually eight calendar, or seven working days, on account of illness, and the cost of illness amounts to about one-half billion dollars a year. Considering the present status of medical science about one-third of all deaths are premature, and the capital cost of these preventable deaths has been estimated to be over six billion dollars."

This ten billion dollar tax is carried principally by business and industry, and they are out to remedy it. They claim that it would be better to spend some of this money in prevention rather than cure, and that they propose to develop a scheme that will reduce their burden.

They are mulling over reports from abroad that social insurance is the answer and that "no country that has ever enjoyed the benefits of social insurance has made the slightest move to relinquish them. On the contrary, there has been a tendency to extend social insurance to include even larger parts of the population." You will please remember that this is a quotation.

It has been estimated that the general practitioners are making an average income of six thousand dollars in our currency by this system over there. These agitators invite us to give consideration to Chile for what seems to be a well functioning system. The facts show that the organization of medical service is a world-wide development.

Society has undergone tremendous industrial changes in the last century and there is a more or less universal insecurity. There is universally a pressing demand for social security. It is to satisfy this demand that social insurance systems are introduced in order to spread unpredictable risks among as many people as possible, and to pool resources.

So far the American Medical Association has violently opposed the idea of compulsory insurance.

It is generally recognized that socialized medicine is one of the major problems of today. Therefore, would it not be better for the doctors to meet this situation fearlessly and openly, rather than leave its disposition to alien and commercial agencies and allow its control to pass out of their hands, possibly for an indefinite time!

With the threat of socialized medicine looming larger all the time, with government

interference increasing from day to day, with the press of the country becoming more unfriendly, medicine should analyze the fundamentals of its dilemma.

This country was founded on individualism, but life was simple then. Now it is complex—things must ever be met on their merits. Socialized medicine is State medicine, and it is un-American.

However, it would be carrying coals to Newcastle to discuss this much debated question before the Chattahoochee Valley Medical Association.

CARCINOMA OF THE COLON AND RECTUM*

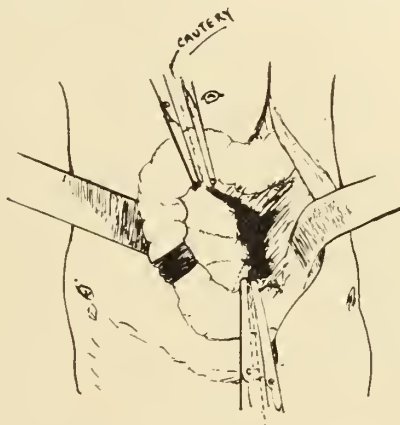
By
EARLE DRENNEN, M. D.
Birmingham, Ala.

Carcinoma of the colon and rectum is a curable disease. The cure depends upon two factors, namely, early diagnosis and complete removal of all malignant tissue. Unfortunately, diagnosis has not kept pace with the improvement in surgical management, and often patients see the surgeon for the first time when obstruction has supervened.

Carcinoma in the large intestine is of slow growth, and often remains confined to the gut wall for a year before spreading to the nearby lymph nodes. In this state, it is easily extirpated, often with complete restoration

of the fecal stream and with freedom from return of the malignant process.

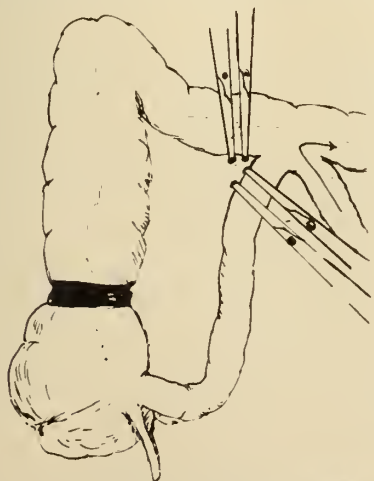
The early symptoms are worth calling to mind, because, if these early symptoms are noted and followed up with barium enemas and visual examination of the recto-sigmoid and rectum, the growth can be diagnosed and removed while it is still in a curable state. The most important symptom of all is a change in bowel habit, particularly in



RESECTION OF SIGMOID

patients past 50 years of age. By change in bowel habits, is meant becoming suddenly constipated when the bowels have been regular and free throughout life; or having an unexplained diarrhea develop. Persistent or recurring blood in the stool, or on the stool, demands a complete examination to disclose its source.

The symptoms vary somewhat according to the location of the lesion. The right colon is chiefly concerned in absorption of fluids, while the function of the left colon is largely that of storage. The lesions on the right side are apt to be irregular and ulcerating, while those on the left are scirrhus in type and annular, causing constriction and increasing obstruction. On the right side, pain, cramp-like and fleeting, but recurrent, and indefinite indigestion are usually the earliest complaints. Later, palpable tumor and severe secondary anemia come. In every patient of middle life or past, with severe unexplained secondary anemia, pernicious anemia, cancer of the stomach and carcinoma of the cecum and ascending colon must be considered in making a diagnosis. Lesions of the transverse colon show pain and increasing constipation; tumors of the descending colon and sigmoid, bleeding from the



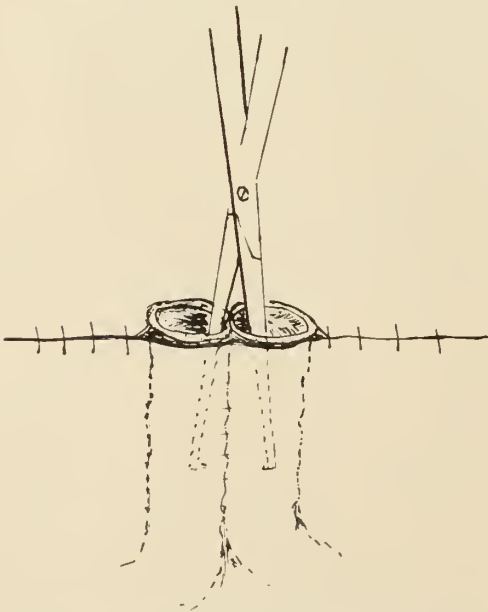
RESECTION OF RIGHT COLON
SECOND STAGE

*Read before the Association in annual session, Montgomery, April 18, 1939.

rectum or blood in the stools, pain, increasing constipation and, at times, diarrhea. The textbook description of alternating diarrhea and constipation is misleading, because it occurs only in a small percentage of the cases. It is with recto-sigmoid and rectal tumors that a change in bowel habit is most likely to occur. The incidence of cancer of the colon in the different segments of the gut is practically the same in the statistics of England, continental Europe, and the United States. The following table is taken from a recent article in *The Lancet* by Sir Arthur Hurst:

SEGMENTAL INCIDENCE OF CANCER OF COLON			
Cecum	7½		
Ascending colon	5		
Hepatic flexure	2½	.....	25
Transverse colon	2½		
Splenic flexure	5		
Descending colon	2½		
Sigmoid .....		.....	25
Recto-sigmoid	32½		
Ampulla of rectum	15	.....	50
Anal canal	2½		
Total	100	.....	100

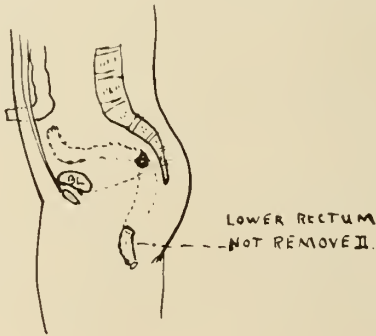
Thus, it is seen that approximately 50 per cent of the cancers of the large intestine occur in the rectum and recto-sigmoid, and can be diagnosed either by the palpating finger



Cutting of septum preliminary to closure of colostomy.

or the sigmoidoscope. Many easy diagnoses are missed, because of the repugnance of patient and doctor to these simple examinations.

The surgical management of carcinoma of the colon and rectum has improved to such an extent that operation can confidently be undertaken with a minimum mortality rate, and the good hope of permanent cure in the early cases. In the great majority of cases these operations must be done in two stages. In the elderly and in the obese, one-stage operations are not well tolerated. It is in these cases that the two-stage operation introduced by Lahey has proved wonderfully safe and helpful. In the Lahey operation, a left rectus incision is made sufficiently large to admit the hand. The liver is examined for metastases, and then the extent of the growth, its mobility or its attachment to other structures noted, and an opinion formed as to the nature and scope of the second operation; the bowel divided in the lower sigmoid region, so that the superior hemorrhoidal vessels are left uninjured, and attached to the lower segment; this is implanted just above the bladder in the mid-line. At the same time, a permanent



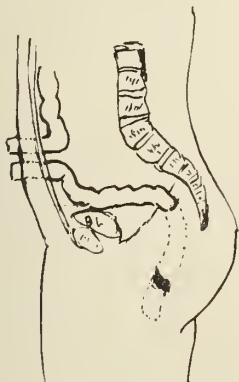
ANTERIOR RESECTION

Entire operation done through abdominal incision, in one stage, leaving a few inches of the lower rectum below the peritoneum.

colostomy is made with the upper segment in the left rectus incision. This upper segment is sutured to the left parietal peritoneum in such way that small intestine cannot slip below or behind, and cause obstruction. At the point where the bowel is divided, the mesentery is carefully divided down to its base. Into this space the omentum is sutured and fastened, so as to peritonealize every raw surface, thus preventing the small intestines from becoming adherent and causing trouble at the second operation. The second stage is the same as in the Miles one-stage,

with the exception that the permanent colostomy has already been formed and is functioning.

This operation allows weak and elderly patients to overcome the effects of obstruction and absorption, and to greatly improve



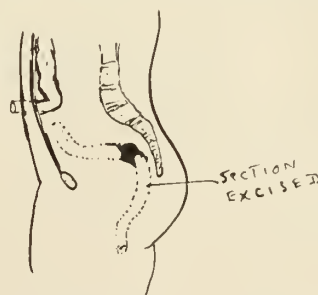
POSTERIOR RESECTION

Colostomy established at first operation, and rectum excised from behind at second stage. Used in old and poor risk cases.

their resistance before undergoing the second stage. Twelve to fourteen days is the usual time between the two stages. But with the lower loop viable and being cleansed daily with through and through irrigations, one can wait three or four weeks, if the general condition of the patient demands it. In one of our cases, a man of 32 returned to his home and had an attack of acute appendicitis with rupture between the two operations. The second stage operation was undertaken six weeks after the first, and he made an uneventful recovery, and has remained well.

Not all recto-sigmoid tumors are suitable for the typical Lahey two-stage operation. In the old or very weak, with the tumor in the anal region, the first stage may be done according to the Lahey method, and, later, the growth removed by posterior operation, such as the Kraske. One of our eight cases was so managed. The patient was a woman 70 years old who had been treated by fulguration and diathermy elsewhere for nearly a year. At the operation, no extension of the growth could be found within the abdomen or pelvis. She remains well four months after the posterior excision with a good chance for permanent cure.

The Miles one-stage abdomino-perineal operation is suitable only for patients in good condition and able to stand a severe operation. In this operation, a colostomy is formed with the upper segment after dividing the gut in the lower sigmoid region. Then the superior hemorrhoidal or lower part of the inferior mesenteric vessels are ligated and divided. This prevents any further bleeding from the segment to be removed. The peritoneum is incised around the rectum, freeing the gut in front from the bladder in the male, and from the uterus in the female. The remaining intraperitoneal part of the recto-sigmoid can be easily freed with the hand, gently pushing down the hollow of the sacrum behind the gut. The loosened segment is then pushed well down in the pelvis and a new pelvic floor constructed by suturing together the peritoneum. The abdominal incision is closed and the patient turned on his side. The anus is closed with a running cat-gut stitch, an incision made around the anus extending up in the midline to the sacrum. The coccyx is usually removed, the fascia underneath incised and the loop, which was pushed down, is grasped and pulled out. The levator ani muscles on each side are divided to free the lower part of the gut, which is



MILES' OR ONE STAGE ABDOMINO-PERINEAL RESECTION.

Colostomy formed and all recto-sigmoid and rectum below that point excised at one time. For A-1 risk patients.

removed *en bloc*. A large rubber dam sheet containing gauze is stuffed up into the hollow of the sacrum and dressings applied.

The anterior operation is practiced in cases where the growth is high up in the recto-sigmoid, and in which the gut can be severed sufficiently low to get safely beyond the growth on its distal side. It can usually be done in one stage, and offers the hope in

young people of reestablishing the fecal stream.

In removal of the right colon, a preliminary anastomosis is made between the terminal ileum and the transverse colon. Two weeks later the diseased segment is removed.

In operations on the transverse, splenic and sigmoid portions of the large intestine, the "Mikulicz" type of procedure is employed. The mesentery is severed as far from the gut as practicable and for a distance of about four to five inches above and below the lesion. Then the growth is delivered outside the abdomen, the two loops sutured together to form a double-barrel shotgun effect, and in such manner that small intestine cannot slip between them. Clamps are applied flush with the skin, and the segment containing the tumor is removed by the actual cautery. The clamps are left on, usually 72 hours unless obstruction is present. When obstruction is present, immediate drainage is effected by introducing a large tube into the proximal loop, and fastening it so that leakage onto the incision does not occur.

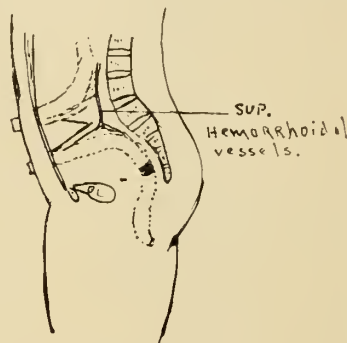
We present a small series of 16 cases which have been operated upon in the last three years.

	Number of Cases	Cured or Improved	Died
Cecum and ascending colon.....	4	4	0
Transverse colon.....	1	0	1
Splenic flexure.....	1	1	0
Sigmoid.....	2	2	0
Recto-sigmoid and rectum.....	8	8	0

The ages in the above cases varied from 32 to 72 years, the average being 55. The one patient who died had acute obstruction from a large tumor of the transverse colon, which had perforated and formed an abscess. The patient died four days later from infection and peritonitis.

Of the cecal and ascending colon cases, one had cancerous glands and tissue involving the superior mesenteric artery. At the end of six months he has a palpable mass, and is doomed. In the other three cases, the glands at microscopic examination were found free from cancer. They have remained well. The case with splenic flexure was in a man 72 years of age. He had been given barium by mouth in another city 36 hours before, and

was forced to undergo an emergency operation (colostomy) to save his life. Two weeks later the growth was resected, and today he is well, with restoration of fecal stream.

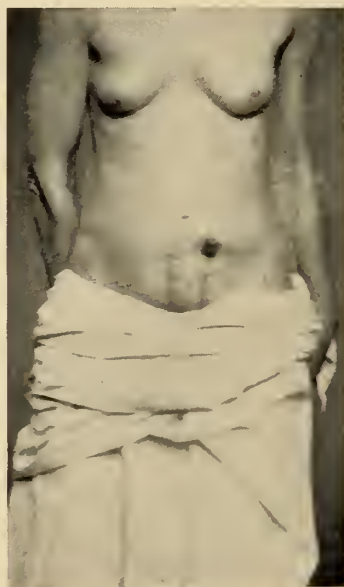


LAHEY TWO-STAGE ABDOMINO-PERINEAL

Colostomy formed at first operation, and circulation left unimpaired to lower segment, which is removed at the second operation.

This case illustrates the danger of giving barium by mouth to these patients. An enema should always be given first.

The sigmoid case was in a woman of 40 who had been treated elsewhere for 2 years with belladonna for spastic colon, no barium



Incisions and permanent colostomy of Lahey two-stage.

enemas or thorough investigation having been made. At operation, a "Mikulicz" resection was done. A large metastasis was removed from the omentum and a second

metastasis involving the upper and posterior part of the vagina was not removed. This was treated by radium and actual cautery in the cervix. She has gained 25 pounds in six months, and feels well, but is not cured.

Of the 8 recto-sigmoid and rectal cases, 3 have been in the lower rectum and easily palpated by the finger. In one the typical Lahey operation was done, and the patient is apparently cured after two years. The



Showing permanent colostomy and incision where anterior resection was done.

third case is now in the hospital, awaiting the second stage operation.

Of the remaining 5, all were in the recto-sigmoid region. In one, the anterior one-stage operation was done and the patient is well three years. In two others, the anterior operation was done in two stages and both are well after two and a half years and one year, respectively. The remaining two were done by the Lahey two-stage method, and are well one and a half years, and one year later.

In younger women, it is desirable, if possible, to leave the lower rectum with the levator ani muscles for obvious reasons. However, no consideration must swerve the surgeon from radical removal of all suspected malignant tissue.

In closing, permit me to say a word about colostomy. Many doctors and lay people have the idea that a colostomy is a terrible thing, and that death is preferable. This is far from the truth; in fact, just the opposite of truth, provided the colostomy is properly

placed and rightly made by the surgeon. A diet has been worked out whereby these people can lead a normal life, and enjoy it.



Washable cloth belt, to retain dressings in place. No other apparatus needed.

The bowels move once in three days, and then with an enema, requiring about 45 minutes' time. These people play golf, shoot and hunt, ride horseback, and, in most cases, wear no belt or apparatus at all, but merely a clean pad fastened over the colostomy opening.

SEPSIS

THE DOCTOR'S NUMBER ONE PROBLEM

By

F. L. CHENAULT, M. D.

Decatur, Ala.

Sepsis, I think, to follow Lenhartz, includes all clinical forms of blood poisoning due to microbes. The common word used in medicine today for blood poisoning by germs is sepsis. Only living organisms can infect. Infection, or sepsis, is a morbid process set up by minute living agents. There are no

*Read before the Association in annual session, Montgomery, April 20, 1939.

surgical infections in contradistinction to medical infections. There is no surgical bacteriology in contradistinction to general bacteriology. Surgeons are especially concerned with wound infections and with certain phases of local reactions of various tissues to pathogenic agents. Here mechanical measures are used to combat the influence of infection. Surgery is only a method of treatment. The good doctor and the successful surgeon alike need thorough training in pathology. Certain changes or reactions follow the invasion of tissues by pathogenic organisms. Physiology is disturbed. Distribution of cells and body fluids are altered. Chemical and physical properties of cells and their products are maladjusted. Thermogenic and thermolytic centers are thrown out of balance and metabolism is altered. Macroscopically and microscopically, there are morphologic changes. These disturbances in anatomy and physiology produce the local and constitutional signs and symptoms of infection or sepsis. The location, dosage and virulence of the infecting parasites determine the character and extent of local and general reactions. Close study and observation, with careful notes and records of the patient during his reaction to pathogenic organisms, should be the rule. This does not presuppose that every case must be hospitalized. In fact, there are protracted and prolonged cases of sepsis where hospitalization is out of the question, and home treatment sometimes is better anyway.

Sepsis may be acute, subacute or chronic. It may be primary or metastatic. Two positive signs of dissemination are (1) finding the bacteria in the blood, and (2) secondary foci. Where secondary foci are recognized, bacteria have already been deposited in masses large enough to plug small blood vessels. Such metastatic processes may or may not go on to suppuration and abscess formation. There may be one or literally thousands of such secondary foci. Staphylococcal infection eventuates in secondary metastases more often than infection by streptococci. In metastatic sepsis, irregular, intermittent or remittent types of fever, with or without chills, are often present and frequently lead to the mistaken diagnosis of malaria and the administration of quinine and atabrine. Every practitioner and specialist should be alert to recognize the presence, or possible presence, and role of sepsis in all cases not def-

initely proven. In other words, suspect sepsis until you can prove it is not present. In the examination of all cases, foci of infection should be sought, and, if present, found. If there are either primary or metastatic septic processes, be diligent to find them. Find the lesions, if they exist. Find all other causes of febrile maladies. If possible, find the source of the infection. Frequently primary sources or septic foci are found in tonsils, teeth, gums, ears, rectum, prostate, urethra and female pelvic organs; and in children the long bones, especially the tibia. Infection may begin in tonsils or in gums and teeth, or in the sinuses, and may cause pneumonia, endocarditis, arthritis, orchitis or epididymitis. Infections and mechanical obstructions are chief factors in producing symptoms originating in the urologic tract. When due to sepsis, they are usually secondary or metastatic. Witness such lesions as ureteral stricture and kinking, hydro-ureter, hydro-nephrosis, pyelitis, pyelonephritis, cystitis, verumontanitis and seminal vesiculitis.

Infection of tonsils, dental sepsis and paranasal sinusitis take rank respectively as No. 1, 2, and 3 foci. The appendix, gallbladder and rectal crypts demand attention.

I once heard a dentist read a paper before this Association in which he said the members of his profession should first take the regular medical course and later specialize in dentistry, as do other specialists in their lines. I concur in his opinion.

Marked depressions of the nervous system, neurasthenias, psychoneuroses, dementias, and even acute and violent manias may be due to oral sepsis. I recall one case in which I was very much interested who went "bezerk" while out bird hunting. He had to be restrained and imprisoned till he could be placed in a mental hospital. He had a 4-plus case of oral sepsis. It was difficult to feed him. The very good doctors who had him under observation considered extractions but decided against it because of present difficulty in feeding him and possible later inability to do so if the teeth were extracted. He stayed in the hospital quite some time, without improvement and without hope. He was transferred to a similar hospital in another state where he ran the same course with the same hopeless prognosis. He was taken from this hospital to a private infirmary where the attending physician had all his teeth removed. He quickly

improved, made a complete recovery, and now, after several years, is in normal mental and physical health. Another case, a woman of intelligence, also of good family and in comfortable economic position, developed a mental quirk that was called "dementia precox." She had such a pronounced tremor, she could not drink from a cup or a glass. She also spent some time in a mental hospital and improved mentally but her tremor was totally disabling. I saw her anesthetized and all her teeth removed at one time. She was far too ill to go to her dentist's office for the extractions. She took anesthetics poorly. Different anesthetics were tried. Finally, believe it or not, chloroform was used and succeeded better than any of the others. She was a patient of mine. I hesitated to go by next morning because I expected some one to meet me at the door and tell me at what hour she died. Instead, she was perfectly clear mentally and all her tremor was gone—permanently gone.

Sepsis plays an important role in the three great plagues, syphilis, tuberculosis and cancer, as well as in goiter, diabetes and heart disease. Oftentimes, the associated sepsis kills rather than the tuberculosis *per se*. In advanced cancer, the associated sepsis produces such foul and offensive conditions as to render cases inoperable. Saprophytes in dead and dying tissues not yet separated render the cases more hopelessly hopeless.

Immunity to insanitary conditions and resistance to infections by pathogenic organisms are both racial and individual.

We have direct poisons for some protozoa or animal parasites. We are now witnessing widespread and phenomenal chemical poisoning of certain groups of pathogenic bacteria, particularly the pneumococci and gonococci. Anerobic bacteria are being demonstrated in blood cultures from certain cases of so-called essential or idiopathic hypertension. Adequate or massive doses of sulfanilamide seem to be the answer. Great promise is given but it is yet too early to say at what price.

Much of the pain and cachexia of cancer and other morbid processes are due to sepsis. Surgical mortality and morbidity are greatly increased by sepsis. In addition to the relief from so-called specifics and to the wonders we are witnessing from the use of sulfanilamide and sulfapyridine, we have another

agent, too seldom used, but of great potentiality. I refer to the x-ray.

Septic infections with localized cellulitis, even if extensive with lymphadenitis and lymphangitis—the classic red streaks—yield to x-ray treatments like snow to the morning sun.

Pneumonia and other inflammatory conditions, septic and toxic, are favorably influenced by therapeutic x-ray. Diseases of the thyroid and prostate glands, coronary disease, and hypertension, in a high percentage of selected cases, give better response to x-ray than any other accepted treatment. In our work my associate, Dr. E. M. Chenault, and I have seen extreme hyperthyroidea, toxic goiter with basal metabolic rate above plus 50 and associated hyperglycemia, above 250 mg., with classical cardiac and clinical symptoms, yield to therapeutic x-ray treatments. It is too early yet to report a series of cases or to make final evaluations. Sepsis is probably the etiologic factor. In early localized erysipelas in adults, in gas gangrene, furuncles and furunculosis, carbuncles, granuloma, infected hemangioma, cellulitis, lymphangitis, prostatitis and some other conditions, no other treatment is necessary.

Of course, I would not direct my remarks to our skin specialists who were wise enough to select a field of service in which there is no mortality, but I would say to the general practitioner that, if he will investigate carefully, he will find in focal infection (sometimes well concealed and sealed in) an explanation of many of his skin cases which sulphur and grease have failed to cure.

The dissemination of the information as to sepsis and the practical use of this information depend more on general practitioners than on specialists.

No examination should be considered complete until tonsils, gums, teeth, sinuses, ears, the urologic tract and pelvic organs have been examined. Blood and urine examinations should be routine. A flashlight and a tongue blade are just as indispensable as are the thermometer and stethoscope. Remember the crossbars at the grade crossing and "Stop, Look and Listen."

NEXT ANNUAL MEETING
BIRMINGHAM
APRIL 16, 17, 18, 1940

PYELITIS IN INFANCY*

By

W. W. HARPER, M. D.
Selma, Alabama

According to Helmholz, coccal infection of the kidneys occurs as often in boys as in girls. In infection with the colon bacillus group, the ratio is one boy to 7 or 8 girls. This is explained by the fact that the cocci are blood borne while the bacilli enter the urethra from the near-by anus, traverse the bladder and invade the kidney through the open ureter. It was formerly believed and taught that pyelitis meant an inflammation of the kidney pelvis, but this theory has been disproved by Clough, who autopsied 29 children from the Johns Hopkins Hospital who had been diagnosed as pyelitis. In only one case was the pelvis inflamed, while the kidney structure was inflamed in every case. In a consideration of the successful treatment of pyelitis, the subject should be divided in two parts: (1) acute and (2) recurring or chronic.

The acute attack follows in the wake of an acute tonsillitis, sinusitis, skin infection or bacillary dysentery. The organisms from the tonsils and sinuses are usually streptococci; while boils give staphylococci. The colon bacillus has as its natural habitat the colon and when let alone is peaceable and quiet. In appreciation for the food and shelter furnished by the colon it acts as a policeman for the colon. But when the bacilli are disturbed and irritated they go forth to war with the kidney as their goal. The child usually awakens at night with a high fever and no other symptoms. The blood shows a high white count with an increase of polymorphonuclear leucocytes. A urine examination shows many cells with clumping tendency; the urine is very acid. A word of caution: Occasionally only one kidney is infected and often the ureter on the affected side becomes temporarily blocked with pus. If the urine is examined at this time, it will be found free from pus and a false diagnosis will be made. If pyelitis is suspected and no pus found in the urine, collect a 24-hour specimen and examine a sample from this. Do not collect a specimen from girls by placing cotton over the vulva. The cotton will filter out the pus. Get a catheter specimen. It is easy and ac-

curate.

The treatment consists in quickly alkalizing the urine and keeping it alkaline, preferably with potassium citrate. Omit the diet and push fluids, especially ice tea, ades, and coca cola. The tea and coca cola act as fine diuretics. This treatment is continued for two days. We then give sulfanilamide. The sulfanilamide will destroy hemolytic streptococci, most of the staphylococci group and the colon bacillus. "It has no effect upon *Streptococcus fecalis* and certain staphylococci. But these are promptly cured with mandelic acid." For the successful administration of sulfanilamide, certain facts must be borne in mind: (1) It acts best in an alkaline urine; and (2) It must be excreted in concentrated form to act as a bactericide. Therefore, while giving sulfanilamide, the fluid intake must be materially reduced. In babies from 6 to 18 months old the entire fluid intake (milk included) should be from 16 to 24 ounces. This is a *sine qua non*. The dosage is $3/5$ grain per pound of body weight every four hours. This dosage is continued for two to three days and then reduced to $2/5$ grain. With the sulfanilamide give a like amount of sodium bicarbonate, which increases the efficiency of the sulfanilamide while lessening its toxicity.

The profession is indebted to Helmholz of the Mayo Clinic for his epoch-making work with mandelic acid in urinary infection. He found that sulfanilamide promptly cured pyelitis due to the hemolytic streptococcus, *Staphylococcus aureus*, and the colon bacillus but had no effect on *Streptococcus fecalis* and certain staphylococci, which were speedily cured with mandelic acid.

In the successful use of mandelic acid, certain facts must be kept in mind. Helmholz states:

- 1st. It cannot be given in acute pyelitis.
- 2nd. The urine must contain continuously a one per cent solution.
- 3rd. The pH of the urine must be kept at 5 to 5.5.
- 4th. The fluid intake must be reduced at least one-half.

The mandelic acid is given in combination with ammonium chloride for proper acidity of the urine. The dose is one and one-fourth grains per pound of body weight every 4 hours. "Knowing that all the mandelic acid is excreted by the kidneys, it is easy to maintain one per cent in the urine by controlling

*Read before the Association in annual session, Montgomery, April 18, 1939.

the amount of urine passed." Remember that practically 2/3 rds of the fluid intake is excreted by the kidneys. For instance, a baby one year old and weighing 22 pounds should have 28 to 30 grains of mandelic acid in 24 hours with a urine output of 6 to 7 ounces. To obtain this amount of urine the fluid intake should be 10 to 12 ounces. "The pH (proper acidity) of the urine is obtained by giving ammonium chloride with the mandelic acid. By pH is meant the true urine reaction. Thus pH 7 is neutral; pH 6 is slightly acid and pH 5 is 10 times as acid as pH 6. The acidity is to be kept at 5 to 5.5"—Helmholz. This is determined by dipping into the urine a piece of specially prepared litmus paper and comparing the color with the color indicator. A lemon yellow or light pink indicates the proper acidity. If the acidity is too low, add more ammonium chloride. If too high, give sodium bicarbonate.

In treating recurring or chronic pyelitis, one must remember that the kidney infection is secondary to a focal infection elsewhere, and this primary infection must be relieved before the kidney lesion can be cured. Bad tonsils must be excised, bad teeth extracted, sinuses cleared up, skin lesions cured and colitis relieved. Having cured the focal infection, we culture the urine to determine the infecting organism. We then give sulfanilamide or mandelic acid according to the type of infecting organism. It must be remembered, too, that urinary calculi play an important role in pyelitis. Calculi form when the stream is slowed down from a small meatus, stricture of the urethra, enlarged prostate, ureteral kinks or stricture. A thorough genito-urinary examination from meatus to kidney is imperative and every obstruction to free flow of urine must be removed.

Recently, Folsom of Baylor University has shown that the glands that surround the bladder neck frequently become infected and give a pyuria to simulate pyelitis. The origin of the pus is shown by a cystoscopic examination. It will be seen that no pus comes from either ureter. This condition is cured by treating the inflamed glands surgically through a cystoscope. Always suspect pyelitis in a very pale child with a poor appetite. These children should have a very high protein diet with an abundance of vitamins. After clearing the patient's urine of pus, give large doses of iron for the anemia.

DISCUSSION

Dr. Merle Smith (Parrish)—The essayist has, with his usual skill, presented an excellent discussion of a rather common symptom. Campbell, *Surgical Clinics of North America*, June 1936, shows forty-eight causes of pyuria in the male and female, which further emphasizes that in all patients with persistent pyuria, lasting over a month, a complete urologic examination with suitable x-rays should be done. I have in mind a young married woman, who had repeated dilatations for ureteral stricture and pyuria, over a number of years, only to lose the kidney due to calculi and hydronephrosis. Another patient on the other hand has refused operative interference for kidney calculi, depending upon repeated ureteral drainage for relief.

In children, especially girls, one must be on the alert for local conditions in the vagina, such as ulcers, gonorrheal vaginitis and non-specific infections. Thus, in order to make a diagnosis of pyuria, a catheterized specimen must be demanded. I am indebted to my friend Dr. L. M. Walker, of Jasper, for a case report in which a young girl had impetigo. This was followed by pyuria and painful urination. The patient was treated by the usual methods and no improvement ensued. Further examination revealed a large ulcerated area in the vagina. This was treated by ammoniated mercury applications to the ulcer, bladder irrigations and neosilvol instillations with recovery in a short time.

The child with chronic loss of appetite, irritability and lassitude should not be considered to have had adequate attention without a catheterized urine specimen. As the author has pointed out infection of the kidneys occurs equally in both girls and boys. Often frequency is not a symptom in children.

Then there is the pyuria in which the urologic and laboratory examinations are negative as to the cause of the pyuria. This is the amicrobic type and salvarsan injections are the treatment of choice. Remember to take a Wassermann test before the injection of the arsenic is given.

A PLEA FOR THE USE OF U. S. P., N. F., AND N. N. R. DRUGS*

By

A. RICHARD BLISS, JR., M. D.†
Birmingham, Ala.

"Let us hold fast the profession of our faith without wavering . . . and let us consider one another, to provoke unto love and to good works; not forsaking the assembling of ourselves together, as the manner of some is." (Epistle to the Hebrews, Chapter X.)

It has been customary for the presidents of the American Medical Association and of

*Read before the Association in annual session, Montgomery, April 18, 1939.

†Member of the Committee of Revision of the U. S. Pharmacopeia; Professor of Pharmacology and Dean of Pharmacy, Howard College, Birmingham.

state medical associations in their inaugural addresses to touch on some of the many problems which confront these associations, which represent what we usually speak of as "the organized profession of medicine." The objects of the American Medical Association, and of its units, the state associations, are admirably set forth in its Constitution: ". . . to promote the science and art of medicine and the betterment of the public health"—a brief and comprehensive statement. Members of the American Medical Association, then, are associated to seek further knowledge in order that they may gain power individually and collectively to prevent and heal disease. The primary objects, then, are not those of self-interest, but instead objects which are altruistic—to aid and to protect mankind. Doctor Seale Harris, President of this Association in 1939, wisely recommended the appointment of a committee to cooperate with a similar committee of medicine's age-old ally—pharmacy—represented by the Alabama State Pharmaceutical Association, in promoting and advancing the altruistic objects of both professions—to aid and to protect mankind. This is what prompted my quotation from the Epistle to the Hebrews, and it was in a spirit of collaboration and cooperation—speaking, as I am privileged to speak as a member of the Committee of Revision of the U. S. Pharmacopeia, to both professions—that I accepted your President's gracious invitation to talk for a few minutes in the interests of the U. S. P., the N. F., and the N. N. R.

The necessity for the art and science of pharmacy is certainly obvious to all of us. Drugs are usually divided according to their origin into mineral, vegetable and animal drugs. The last two groups are frequently too bulky to be used conveniently, and the active constituents of such drugs are often present in such a state that they cannot be readily separated in the human organism, and consequently cannot fully project their actions. One drug by itself may not adequately meet all the indications in a given disease or individual case, and when several drugs are given it is essential that they be combined in such a way that they may not interfere with one another, mechanically, chemically or physiologically. Finally, after having selected and prepared drugs in a correct manner, and having determined how to combine them properly, it is essential that they be

made available in such forms as will be least objectionable to the sight, taste and smell of the patient. These, then, are the major functions of pharmacy—the separation of the active constituents of drugs, their combination, and their presentation in pleasant, palatable forms. These are functions, too, in part of the Council on Pharmacy and Chemistry of the American Medical Association, the committees of revision of the U. S. Pharmacopeia and of the National Formulary, and of the federal and state food and drug administrations and health departments.

Obviously, a certain degree of uniformity in the strength and preparation of medical products is absolutely indispensable. Consequently, practically all civilized countries of any size have standards established by law, to which drugs and their preparations sold by manufacturers, jobbers and retail pharmacies must conform. The volume in which these standards are published is usually termed the "Pharmacopeia," and the drugs and preparations contained therein are called "official." So, pharmacopeias are official books or codes of standards for official drugs. With the "narrowing of the boundaries of the earth" caused by vast improvements in transportation and communication, the necessity for some degree of international uniformity became apparent, and the first step in this direction was taken by the Brussels Conference of 1906—"The International Conference for the Unification of the Formulas for Potent Medicines." This conference compiled a list of the potent drugs for which uniformity was most essential, and established standards of purity and strength for them and their preparations. Most of the civilized nations have adopted these standards. The formulas of the conference which are found in the U. S. P. are designated by the abbreviation "P. I." (Protocol International); the British Pharmacopeia designates them as "I. A."—(International Agreement). The second conference, held in Brussels in 1925, readopted practically all of the basic principles formulated by the first conference. All of this stresses the need of pharmacy and the importance of pharmacopeias and other similar codes.

In prescribing drugs and their preparations it is of utmost importance to the physician and to the patient that any given titles used in a prescription shall always call for

the same substances, and that these substances shall have definite purity, quality and potency. The federal and the state food, drug and cosmetic acts establish the titles and the standards of the current revisions of the U. S. Pharmacopeia (XI) and the National Formulary (VI) as the legal or official names and standards of the drugs and preparations contained in these books. So, when a physician calls for U. S. P. and N. F. drugs or preparations in his prescriptions, the pharmacist is required by law to dispense only material which conforms in purity, quality and strength with the official or legal standards. In like manner a manufacturer who labels products with an official title must insure that they conform with the legal standards. There are no other *legal* standards for medicinal substances in the United States. Many are confused by the term "C. P."—"chemically pure." This term is neither uniform nor legal, for it simply represents the arbitrary standard of an individual manufacturer, and, at that, standards which the manufacturer may change at will. If a physician prescribes a preparation that is not official in the U. S. P. or the N. F., or that is not found in the N. N. R., the pharmacist may dispense preparations of the same name but of several different formulas, and of arbitrary potency manufactured by any convenient method.

The scope of the pharmacopeias usually aims to include only drugs of established therapeutic value, and there is a fortunate growing tendency to restrict the admission of unnecessarily complex mixtures. Our own pharmacopeia was established in 1820, not by a group of pharmacists, but by a group of physicians, under the leadership of Lyman Spalding, M. D., of New York City, who met in convention at Washington, D. C. on the first of January of that year. The meeting was held in the Capitol, and Samuel L. Mitchell, M. D. was elected President, and Thomas T. Hewson, M. D., Secretary. Doctor Spalding was made Chairman of the publication committee. It was not until 1850 that pharmaceutical delegates were seated in a pharmacopeial convention, although the New York, the Boston and the Philadelphia Colleges of Pharmacy assisted in the compilation of the second revision of the U. S. Pharmacopeia (1840). Since then a convention of delegates, from the medical and pharmaceutical colleges, the state medical

and pharmaceutical associations, the American Medical Association, the American Pharmaceutical Association, the medical departments of the U. S. Army, the Navy, and the Public Health Service, and certain other departments and some of the manufacturers' associations, has met every ten years to determine the principles which are to govern the revision of the work, to elect a committee of revision of fifty persons distinguished for their contributions to therapeutics, clinical medicine, pharmacology, botany, pharmacognosy, bacteriology, serology, chemistry, practical pharmacy, and other definitely related branches of science.

Of this committee of revision, a subcommittee on scope, which includes eighteen physicians, performs the duty of determining which drugs and preparations shall be admitted to the new revision of the U. S. P. That subcommittee has based its selections primarily on therapeutic merit, but has taken into consideration also the extent of use. Thus, a group of able physicians, after prolonged critical study and discussion of the therapeutic virtues of hundreds of remedies, has selected from among the non-patented and nonsecret remedies in common use the drugs and preparations of sufficient importance and of established value for inclusion in the U. S. Pharmacopeia. The current revision, the eleventh, became official on June 1, 1936.

The Committee on Revision maintains the "U. S. P. Vitamin Advisory Board," which establishes standards for vitamin preparations; the "U. S. P. Anti-Anemia Preparations Advisory Board," which establishes standards for anti-anemia preparations; a committee on cardiac drugs, all the members of which are of recognized standing in their respective fields; and also standardizes and furnishes to manufacturers and research laboratories "reference standard" preparations of cod liver oil, aconite, digitalis, ergot, ergotoxine ethanesulfonate, pepsin, various hormones, and other remedies. In this work the standards of the Permanent Commission on Biological Standardisation of the League of Nations Health Organisation and the National Institute for Medical Research of London, for vitamins and for digitalis have been the standards of comparison for similar U. S. P. reference standards now distributed by the U. S. P. Board of Trustees to the groups just mentioned.

The National Formulary is published by the American Pharmaceutical Association, and the work of revision of this volume is carried on by a committee consisting of fifteen which includes one physician (Bernard Fantus, M. D., of Chicago). It, like the U. S. P., is issued decennially. In contrast with the U. S. P. the selections of drugs and preparations for the National Formulary are based not so much on established therapeutic merit as on the extent of use. It contains many formulas devised to facilitate prescribing, and, in addition, because of extensive use, many drugs and preparations which have been deleted from the U. S. Pharmacopeia. It should be noted that some of the preparations of both the U. S. P. and of the N. F. have been admitted not because of any therapeutic virtues or importance but because of their value and use in manufacturing procedures. The present revision of the N. F.—the sixth—became official on June 1, 1936, the same date as the U. S. P. XI.

Patent medicine is a term usually applied to proprietary drugs which are advertised directly or indirectly to the laity. However, they are usually not patented, as the name would imply. The manufacturer of the patent medicine prefers to rely upon secrecy, and consequently does not patent his formula, a step which would involve a disclosure of the same. The medical profession is generally opposed to patent medicines as a class, and to lay advertising in particular. In New and Nonofficial Remedies (N. N. R.) one finds this statement:

"The impossibility of controlling the irresponsible claims which are usually made in advertisements to the public, the well-known dangers of suggesting by descriptions of symptoms to the minds of the people that they are suffering from the many diseases described, the dangers of the unconscious and innocent formation of a drug habit, and the evils of harmful self-medication, including the dangers of the spread of many infectious and contagious diseases when hidden from the physician, and similar well-known considerations, are the reasons for discouraging, in the interest, and for the safety, of the public, this reprehensible form of exploitation."

Proprietary drugs, that is, drugs which are protected by a monopoly—by letters patent, trade marks, secrecy, etc.—are generally not admitted into the pharmacopeias, and, consequently, are not official. Until the enactment of the new federal food, drug and cosmetic law, which becomes fully effective Jan. 1, 1940, this class of medicament was

not subject to adequate legal control, and the advertising resorted to was all too frequently extravagant, misleading and false. However, some of the most valuable drugs are proprietary, and many of them are and have been marketed in a strictly legitimate fashion. Many of this type have been admitted into the N. N. R. and are described in detail therein. Needless to say, the Council on Pharmacy and Chemistry of the American Medical Association, under whose direction the N. N. R. is published, requires strict conformity with the very stringent and critical requirements formulated by that body for admittance to the N. N. R., and one of these requirements is nonsecrecy. The N. N. R., then, contains descriptions of the characters, actions and uses of those proprietary drugs that are marketed in a proper manner. The volume is revised annually by the Council.

Another publication of the American Medical Association is "Useful Drugs," a small, concise manual which contains only the most useful drugs with such information as is of special interest to physicians. And still another is the "Physicians' Epitome of the U. S. P. and N. F.," which gives a brief but critical abstract of all U. S. P. and N. F. preparations.

The policy of the United States government and of all governments in granting letters patent is based upon the assumption that a new discovery belongs to the people, but as a reward to the inventor for disclosing his discovery he can exclude, by means of letters patent, all other persons from enjoying the fruits of his discovery for a limited time. At the end of that period—seventeen years—it is assumed that the inventor shall no longer enjoy the monopoly under the patent laws. However, the trade-mark laws of the United States have been utilized in a most effective fashion to perpetuate the monopoly on patented products. Thus, if the person or company that registers a trade-mark for a patented product is careful enough to apply his trade-mark in such a manner that it will indicate the brand of the patented product, rather than the patented product itself, then he can acquire practically unlimited exclusive rights to the brand name. By clever advertising he may be able to enjoy practically a monopoly on his product even after the expiration of his patent rights. One finds a good illustration of this in aspirin. The word aspirin was made synonymous with acetylsalicylic acid from the very introduction

of the product in the United States. Although the manufacturer obtained letters patent on acetylsalicylic acid, he popularized the product under the name aspirin, and thus aspirin became the generally accepted name rather than the brand name for acetylsalicylic acid manufactured by the holder of the patent. Consequently, when the patent expired, the word aspirin had established a place for itself in the language of medicine, pharmacy and commerce. Exclusive right to the word aspirin could not be vested in the originator of the product after the expiration of his letters patent, because he had not gone to the trouble of preserving the word aspirin as his brand name for acetylsalicylic acid. The introducer of another, unfortunately, all too popular product was very careful to trade-mark a name for his product, and to popularize that name as the name of his brand of this chemical. I am referring to the introducer of phenobarbital, who was careful to popularize the name luminal as the name of his brand of this chemical, and, when his letters of patent on phenobarbital expired, the trade-mark luminal continued in effect and was and is renewable at twenty-year intervals. This prevents other manufacturers of phenobarbital from using the trade-mark luminal.

Thus it is obvious that by the use of trade-marked names, registered with the U. S. Patent Office as trade-marks, one may practically perpetuate a monopoly on a drug or chemical. Within a period of seventeen years, advertising insures that the brand or trade-marked name of the product is made familiar to the consumers, and then it is extremely difficult for another individual or firm, that undertakes the manufacture of the product at the expiration of the letters patent, to convince potential buyers or users that his or their product is not an inferior substitute. It is interesting to note that there is a tacit understanding among most of the manufacturers of drug products today not to appropriate one another's patented products upon the expiration of the letters patent.

The rapid increase in the development and exploitation of private formulas has created a situation today where a pharmacist, although educated and trained to prepare medicines and compound prescriptions calling for official drugs and preparations, finds himself in a peculiar position when he tries to practice his profession in an environment

composed almost entirely of new combinations, usually of well-known drugs, bearing fanciful names, and confronted with physicians' prescriptions calling for numerous types of combinations of official and non-official drugs under names devised for them by manufacturers and registered as trade-marks. To avoid duplication of the almost daily multiplying list of names, the manufacturers maintain a trade-mark bureau with which members can register new names; these names are made available to other manufacturers in order to avoid expensive litigation and waste of time in the coining of new names. Over twenty trade-marked names appear in that register for digitalis preparations, and almost thirty for ergot preparations, each one, apparently, superior to all of the others! With just these two illustrations, one can readily picture the situation which confronts the modern prescription department of a pharmacy. That an unfair monopoly exists today is obvious to any unbiased individual who will carefully study the facts. "The ray of hope" is the new federal food, drug and cosmetic act which, among other badly needed improvements, eliminates the outmoded and unfair legal classification of medicaments into "drugs and medicines" and "patent or proprietary medicines." This act makes the term drug encompass anything, including devices, used in the treatment or the prevention of disease, and practically forces the disclosure of formulas, at least qualitatively.

All of these details have not been recited with the plan of climaxing this paper with an appeal that "every physician should have a copy of the U. S. P. and of the N. F.," or with the statement that "physicians will find everything essential to the drug treatment of disease in the U. S. P. and N. F.," for both statements would be foolish. Although the U. S. P. and the N. F. provide valuable reference books, they contain a vast amount of detail which is of no special interest to the physician, and which make these volumes anything but "easy references" for the busy practitioner of medicine. Instead, our appeal is for the actual use by the physicians of this Association of the small but invaluable volumes published by the American Medical Association itself: (1) *Useful Drugs*, which is a careful and critical selection for practice of U. S. P. and N. F. preparations and a number of recently introduced drugs, including a

brief summary of the pharmacologic actions, the therapeutic uses and dosage; (2) *The Physicians' Epitome of U. S. P. and N. F.*, a brief but critical abstract of all U. S. P. and N. F. preparations; and (3) *New and Non-official Remedies*, which contains descriptions of the characteristics, actions and uses of those proprietary drugs which are non-secret, which have undergone the critical investigation and study of the Council on Pharmacy and Chemistry, and which are marketed in a proper manner. All of this tremendous study and effort and labor have been carried out for your special information and use. Why not take advantage of them, if you have not already done so? The cost is very small indeed, for all three volumes may be purchased from the American Medical Association for less than three dollars! Possibly a year from now, the combined efforts of The Medical Association of the State of Alabama and of the Alabama State Pharmaceutical Association may culminate in the presentation of "The Alabama Formulary" to the members of this Association—a small volume which will present in brief but critical abstract all the materials required for our general and our special needs here in our own state.

BLOOD TRANSFUSIONS*

INDICATIONS. PREPARATION. ADMINISTRATION

By

T. J. PAYNE, M. D.
Jasper, Alabama

Transfusion, defined as the transfer of blood from one person to another, was attempted soon after the discovery of the circulation of blood by Harvey (1616). However, the first of which there is any definite record was in 1667 by Jean Denys, physician to Louis XVI, who gave the blood of a lamb to a 15 year old boy. In 1824 James Blundell of England reported a successful transfusion of blood from one patient to another. Following the work of Jansky (1907) and Moss (1910) on agglutinins of blood, transfusion became a much safer procedure and has since come into widespread use. The earliest method employed consisted in anastomosing

the donor's artery and the recipient's vein. In 1915 Lewisohn demonstrated the efficiency of adding sodium citrate to prevent coagulation of collected blood before injection. Because of its simplicity, this method, which will be described later, has done much to make the procedure available to the general practitioner.

Long before the procedure became one capable of adoption for general usage, Leis-trunk (1872) is quoted as saying that "transfusion is indicated in all of those pathogenic conditions in which the blood is unfit to fulfill its physiologic duties." Following are some of the conditions which may be greatly benefited by this type of therapy:

1. Chief among the indications for transfusion is hemorrhage, regardless of the cause. Thus, it may prove a life-saving measure following hemorrhage from trauma, ruptured ectopic pregnancy, gastric ulcer and postpartum hemorrhage. It is often used to great advantage in chronic secondary anemia and chronic blood loss. Not infrequently, transfusion, along with other therapeutic measures, induces in chronic secondary anemia a stimulating effect on the bone marrow to insure the patient a much more rapid recovery. Many surgeons have shown that a high operative risk in an anemic patient may be definitely improved by a preoperative transfusion. Preoperative and postoperative transfusions are particularly indicated in cases of jaundice. The tendency of these cases to bleed is well known, and the injected blood decreases the coagulation time in many instances.

2. Within recent years, transfusions have been used extensively in sepsis, particularly of the postpartum variety. Predominating the clinical picture is a pronounced anemia. The theory is that by transfusion we replace low resistant blood with fresh material and this allows regeneration of the failing powers of the host and also has some bactericidal effect. Stetson has pointed out that the hemolytic streptococcus, the most frequently offending organism, produces greater hemolysis and more rapid blood destruction than other organisms. Therefore the wisdom of repairing its ravages by transfusion is obvious.

3. In conditions such as pernicious anemia, the leukemias, purpura hemorrhagica and hemophilia, transfusion finds indications in that it supplies the elements of the blood

*Read before a meeting of the Northwestern Division of the Association, Tusculumbia, September 14, 1939.

that are deficient in these diseases. It is well to mention that severe reactions are more likely to occur in the dyscrasias although the blood may match perfectly. I know of several bad reactions, including one death.

4. Carbon monoxide gas has a great affinity for hemoglobin. An infusion of fresh blood will furnish unaltered hemoglobin for the function of oxygenation.

5. Many leading authorities recommend blood transfusion for extensive burns.

6. Immunotransfusions for scarlet fever, typhoid fever and septicemia are gaining in popularity. Blood is taken from a donor who has recently recovered from one of these diseases or who has been vaccinated with specific or non-specific organisms.

In the selection of a donor it is of utmost importance that his blood be compatible with that of the patient's in the sense that no disturbance of red cells will occur in the body during or following the transfusion. The donor must be well and free of contagious diseases. Syphilis must be carefully excluded both by history and Wassermann test. Moss found that all bloods could be classified into four groups according to their agglutination reactions. It is of advantage to know what group one is dealing with, but even though patient and donor are of the same group it is always necessary to cross match their cells and sera. This must be done prior to each transfusion. Not infrequently, the blood of a patient which was compatible with that of several donors will become incompatible after a transfusion.

Methods of transfusion in common use today are the direct ones of Scannell, Unger, DeBaKey-Gillentine, Lindemann, and Kimp-ton-Brown; and the indirect or citrate method. It has been my privilege to use several of these machines but they have not proved very satisfactory. In my experience, they work beautifully in most instances for about 150 to 200 cc. and then the blood begins to clot and the machine to stick. I get much better results with the citrate method and prefer it to any of the multi-jointed machines. I would like to describe the method in detail, which will within itself show its simplicity. Originally, transfusion was regarded as a purely surgical procedure, but no detailed knowledge of general surgical technique is necessary. Anyone with an understanding of asepsis can give a transfusion.

The arm of donor and recipient having the best available veins is selected for use. A sphygmomanometer cuff is placed around the arm of the donor and held to 80 to 100 mm. of pressure. The antecubital space of both donor and recipient is cleaned in the usual antiseptic manner. A small wheal of novocaine is raised over the vein of the recipient. The cutaneous tissue is nicked with a sharp pointed scalpel. Through this, the recipient's needle is introduced into the vein. A simple intravenous saline infusion is then started and allowed to run very slowly while the blood is being collected from the donor. The same method of introducing the needle into the vein of the donor is employed, a large gauge needle being used. The blood is allowed to flow directly from the needle into a flask containing sodium citrate, using 10 cc. of 2.5% solution to each 100 cc. of blood collected. The blood is constantly stirred by a nurse while it is being collected. It is then taken to the patient's bedside and strained through two layers of sterile gauze into the saline which has been kept running. In this way there is no time lost after the blood is collected. Since January 1st, I have given 21 transfusions by this method, have had very little difficulty and only one reaction—in a case of pernicious anemia.

Advantages of the citrate method are several: (1) It is simple and applicable for use by the general practitioner; (2) permits transportation of blood before use; (3) avoids all possibility of infecting the donor; and (4) requires very little assistance. The disadvantage most commonly mentioned is that the blood is altered by the addition of the anticoagulant. Sodium citrate has a tendency to destroy blood platelets and this would seem to contraindicate its use for hemostatic effect. However, it has been shown that temporarily the coagulation time of blood is actually decreased following the injection of citrated blood. A more plausible objection is that of the destructive action of the citrate on the complement, thus reducing its phagocytic and opsonic powers.

The most recent theory in regard to blood transfusion reaction is found in the field of allergy. Hancock reports a case in which he believes death was due to an allergic reaction resulting from a transfusion administered to a patient in which there was no agglutination or hemolysis in the blood matching.

THE JOURNAL

of the

Medical Association of the State of Alabama

Editor-in-Chief

FRED W. WILKERSON Montgomery

Associate Editors

M. Y. DABNEY Birmingham

W. D. PARTLOW Tuscaloosa

J. N. BAKER Montgomery

DOUGLAS L. CANNON Montgomery

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

Office of Publication

519 Dexter Avenue Montgomery, Ala.

Subscription Price \$3.00 Per Year

January 1940

THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.

Today the medical and health functions of the United States are divided among a multiplicity of departments, bureaus, and federal agencies. Thus, the United States Public Health Service is in the Federal Security department; the Maternal and Child Welfare Bureaus in the Department of Labor; the Food and Drug administration in the Department of Agriculture; the Veterans' Administration and many other medical functions are separate bureaus of the government. The WPA, CCC, and PWA are concerned with a similarity of efforts in the field of preventive medicine. The Federal Works Administration and the Federal Housing Administration also have some medical functions.

Since 1875, the American Medical Association has urged the establishment of a single agency in the federal government under which all such functions could be correlated in the interest of efficiency, the avoidance of duplication, and a saving of vast sums of money. Such a federal health agency, with a secretary in the cabinet, or a commission of five or seven members, including competent physicians would be able to administer

the medical and health affairs of the government with far more efficiency than is now done.

2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.

The physicians of the United States have given freely of their time and of their funds for the care of the sick. Their contributions to free medical service amount to at least \$1,000,000 a day. The physicians of this country have urged that every person needing medical care be provided with such care. They have urged also the allotment of funds for campaigns against maternal mortality, against venereal disease, and for the investigation and control of cancer. The medical profession does not oppose appropriations by Congress of funds for medical purposes. It feels, however, that in many instances states have sought aid and appropriations for such functions, without any actual need on the part of the state, in order to secure such federal funds as might be available. It has also been impossible, under present technics, to meet actual needs which might exist in certain states with low per capita incomes, with needs far beyond those of wealthier states, in which vast sums are spent.

It is proposed here simply that Congress make available such funds as can be made available for health purposes; that these funds be administered by the federal health agency, mentioned in the first plank of this platform, and that the funds be allotted on proof of actual need to the federal health agency, when that need be for the prevention of disease, for the promotion of health, or for the care of the sick.

3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.

Obviously if federal funds are made available to the individual states for the purposes mentioned in the second plank of this platform, there might well be a lessened tendency in many communities to devote the community's funds for the purpose, and, in effect, to demand that the federal government take over the problem of the care of the sick. Hence, it is suggested that communities do their utmost to meet such needs with funds locally available before bringing their need to the federal health agency, and that

the federal health agency determine whether or not the community has done its utmost to meet such need before allotting federal funds for the purpose.

4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.

The medical profession is not static. It wishes to extend preventive medical services to all of the people within the funds available for such a purpose. Obviously, this will require not only a federal health agency which may make suggestions and initiate plans, but also a mechanism in each community for the actual expansion of preventive medical service and for the proper expenditure of funds developed both locally and federally. In the development of new legislation such mechanism may be suitably outlined.

5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.

The medical profession does not yield to any other group in this country in its desire to extend medical care to all of those unable to provide themselves with medical service. The American Medical Association through its House of Delegates has already recognized the possible existence of a small group of persons able to provide themselves with the necessities of life commonly recognized as standard in their own communities, but not capable of meeting a medical emergency. It is recognized, however, that only persons of the same community fully familiar with the circumstances can determine the number of people who come properly under such classification and that only persons in actual contact with such instances are capable of administering suitably and efficiently the medical care that may be required. Hence it is the platform of the American Medical Association that medical care be provided for the indigent and the medically indigent in every community but that local funds to be first utilized and that local agencies determine the nature of the need and control the expenditure of such funds as may be developed either in the community or by the federal government.

6. In the extension of medical services to all the people, the utmost utilization of qual-

ified medical and hospital facilities already established.

In the so-called National Health Program it is asserted that one-half the counties of the United States are without suitable hospitals, and vast sums are requested for the building of new hospitals. In contrast, reputable agencies within the medical profession assert that there are only 13 counties more than 30 miles removed from a suitable hospital and that in 8 of those 13 counties there are five people per square mile. In the United States today the percentage of hospital beds per 1,000 of population is higher than that of any other country in the world. This fact is completely ignored by those who would indulge in a program for the building of great numbers of new hospitals.

Moreover, it seems to be taken for granted that hospital building has languished in recent years, whereas considerable numbers of hospitals have been built with federal funds by various state agencies and also by the PWA, the WPA and by the Federal Works Administration.

Analyses may indicate that in many instances such hospitals were built without adequate study as to the need which existed or as to the possible efficient functioning once it was erected. Moreover, there is evidence that in recent years many of the hospitals of the United States known as non-profit voluntary hospitals have had a considerable lack of occupancy due no doubt to the financial situation in considerable part. It seems logical to suggest then that such federal funds as may be available be utilized in providing the needy sick with hospitalization in these well established existing institutions before any attempt is made to indulge in a vast building program with new hospitals. In this point of view the American College of Surgeons, the American Hospital Association, the Catholic Hospital Association, the Protestant Hospital Association and practically every other interested voluntary body agree.

Again it has been argued that the demands for medical care in some sections of the country might require the importation of considerable numbers of physicians or the transportation of numbers of physicians in the areas in which they now are to other areas. In this connection it would seem to be obvious that a change in the economic status of the communities concerned would

result promptly in the presence of physicians who might be seeking locations. The utilization of existing qualified facilities would be far more economical than any attempt to develop new facilities.

7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.

In the United States today our sickness and death rates are lower than those of any great country in the world. This fact was recognized by the President of the United States when he sent the National Health Program to the Congress for careful study. The President emphasized that a low death rate may not mean much to a man who happens to be dying at the time of tuberculosis. The medical profession recognizes the importance of doing everything possible to prevent every unnecessary death. At the same time it has not been established by any available evidence that a change in the system of medical practice which would substitute salaried government doctors for the private practitioner or which would make the private practitioner subject to the control of public officials would in any way lower sickness and death rates.

There exists, of course, the fact that some persons are unable to obtain medical service in the circumstances in which they live and that others, surrounded by good facilities, do not have the funds available to secure such services. Obviously here again, there is the question of economics as the basis of the difficulty and perhaps lack of organization in distribution of medical service and a failure to utilize new methods for the distribution of costs which might improve the situation.

The medical profession has approved prepayment plans to cover the costs of hospitalization and also prepayment plans on a cash-indemnity basis for meeting the costs of medical care. It continues, however, to feel that the development of the private practice of medicine which has taken place in this country has led to higher standards of medical practice and of medical service than are elsewhere available and that the maintenance of the quality of the service is fundamental in any health program.

8. Expansion of public health and medical services consistent with the American system of democracy.

Careful study of the history of the development of medical care in various nations of the world leads to the inevitable conclusion that the introduction of methods such as compulsory sickness insurance, state medicine and similar technics results in a trend toward communism or totalitarianism and away from democracy as the established form of government. The intensification of dependence of the individual on the state for the provision of the necessities of life tends to make the individual more and more the creature of the state rather than to make the state the servant of the citizen. Great leaders of American thought have repeatedly emphasized the fact that liberty is too great a price to pay for security. George Washington said, "He who seeks security through surrender of liberty loses both." Benjamin Franklin said, "They that can give up essential liberty to obtain a little temporary safety deserve neither liberty nor safety."

In these times when the maintenance of the American democracy seems to be the most important objective for all the people of this country, the people may well consider whether some of the plans and programs that have been offered for changing the nature of medical service are not in effect the first step toward an abandonment of the self-reliance, free will and personal responsibility that must be the basis of a democratic system of government.

BROMIDE INTOXICATION

"In recent years bromide intoxication has become a relatively common condition. Hanes and Yates reported 400 cases which occurred at Duke Hospital in six and one-half years. Wagner and Bunbury examined the blood of 1,000 consecutive patients admitted to the Colorado Psychopathic Hospital and found bromide in the serum of seventy-seven. Many reports have come from all parts of this country. However, physicians still frequently fail to recognize the rather typical toxic states produced by bromide. It therefore seemed of interest to discuss again the cause, symptoms, diagnosis, prognosis and treatment of bromide intoxication and to report fifteen additional cases. Only those patients were included who had an initial blood bromide content above 150 mg. per hundred cubic centimeters.

"When bromide is ingested it is eliminated rather slowly. Because bromide is less read-

ily eliminated by the kidneys than chloride there is a tendency for it to accumulate in harmful amounts. Furthermore, since the output of bromide is increased by the ingestion of chloride, intoxication will occur more readily when the intake of chloride is restricted. This fact is illustrated clearly by an early case cited by Hashinger and Underwood: a druggist's servant filled the salt cellars with sodium bromide, and a toxic psychosis developed in every member of the family."

The above are two of the opening paragraphs of the recently published article by Gundry¹ dealing with this subject. The author reminds us that in discussing the symptoms of bromide intoxication we must remember that these symptoms are usually superimposed on those of an underlying neuropsychiatric or organic physical condition. A psychoneurosis, a psychosis, chronic alcoholism, cerebral arteriosclerosis, brain tumor or other organic disease—anything that makes for poor health will facilitate the occurrence of bromide intoxication.

"Headache, anorexia, dizziness, tremors, fatigue, irritability, poor memory and transitory mental confusion have been noted frequently as early symptoms. Several of these symptoms were usually found in cases in which there was a blood bromide content between 50 and 150 mg. Mental manifestations were either evanescent or entirely lacking in such mild intoxications.

"If the bromide medication was continued or (as often happened) the dose was increased in an attempt to overcome the symptoms of mild intoxication, restlessness, weakness, thick speech and unsteady gait became clinical features. Patients were fearful and anxious, with frequent emotional outbursts. There were aural and visual delusions and hallucinations. In some cases delirium was a feature. . .

"When the blood bromide content exceeded 250 mg. the clinical picture was dominated by a toxic psychosis. The patient was often uncooperative, noisy and even actively combative. The mood varied from elation to abject fear or terror. The speech was usually thick and jumbled; it was slurred to such an extent as to be almost unintelligible in some cases. There were many delusions and hallucinations. . . In cases of such severe

intoxication there was usually a lethargic or semicomatose state. . . "

The most prominent physical signs were low grade fever, masked facies, sordes, coated tongue, tachycardia, decreased systolic blood pressure and weakness in the lower extremities. And we are told that "the acne-like cutaneous lesions, which have been greatly overemphasized, were not common in this series; they occurred in only four of fifteen cases. These maculopapular lesions were in no way proportionate to the severity of the intoxication. . . "

Gundry states that "recovery from the symptoms of bromide poisoning requires from one to six weeks, depending largely on the severity of the intoxication." And he believes that physicians writing prescriptions containing bromide should mark them "not to be refilled" and that physicians should observe more closely the patients to whom they are giving bromide and should urge them to take an adequate amount of sodium chloride at all times. And he tells us that "finally, the public in general and physicians in particular should be educated concerning the danger in self administration of bromide or of the many proprietary medicines which contain bromide."

The treatment of this condition consists chiefly of the administration of sodium chloride, generally by mouth and only rarely by the intravenous route. The author advises at least 4,000 cc. of fluids daily, a nutritious soft diet and good nursing care. Whenever he is forced to give a sedative he prefers paraldehyde.

Gundry has covered the ground well and his thought-provoking article merits the attention of all practitioners. Bromide intoxication has been known for decades, but within the last ten or twelve years much more has been learned about it and it is becoming increasingly evident that this condition is much more prevalent than it was formerly thought to be.

It is to be hoped that an alert profession will be able to reduce materially the incidence of bromide intoxication and then to recognize early and to treat adequately the remaining cases.

"Few physicians die of tuberculosis despite the fact that they are constantly exposed to it. Knowledge defends them as it may yet defend other groups in the population when properly educated in self-protection."

1. Gundry, Lewis P.: Bromide Intoxication, J. A. M. A. 113: 466 (Aug. 5) '39.

THE ASSOCIATION FORUM ARTICLE

The Editor-in-Chief of the Journal (who also has the privilege of serving the Association as a member of the State Board of Censors) desires to direct attention to the State Health Officer's communication appearing in this issue under "The Association Forum" in which is outlined the Commonwealth Fund's plan of co-operation and financial participation with the medical profession of the State in the fields of postgraduate study and the expansion of rural hospital facilities. Because of the absence of a four-year medical school in the State, our difficulties of providing suitable facilities for postgraduate and refresher courses have been enhanced. As pointed out in this article, the State Board of Censors, the standing Committee on Postgraduate Study and the State Health Officer have, for some years, sought to improve this much needed service at every opportunity and it is felt that our entire membership should welcome this gracious gesture on the Commonwealth Fund's part to extend a helping hand in these much needed ways. A perusal of this material shows that the Fund's concept is to render aid where

aid is most needed—that is to the rural doctor and to the rural community—a plan which even the urban medico must concede to be sound.

Twenty fellowship grants of one month each, judiciously and wisely placed over the State during the coming year are sure to be reflected in an improved medical service for many communities.

The hospital program also should make an appeal to many doctors in areas where such facilities are either lacking or grossly inadequate. While it is true that but one area in the State will be selected, no harm can come from several communities—and likely there are many deserving ones—making bids and presenting their case. So important are these subjects to the doctors of this State that they might well form a suitable topic for discussion at some of the early forthcoming meetings of their county medical societies.

The hope is expressed that the doctors of our State may see fit to familiarise themselves with the details of these programs and to avail themselves of the opportunities which they present.

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

THE COMMONWEALTH FUND'S EXPANDED ACTIVITIES IN ALABAMA

J. N. Baker, M. D.
State Health Officer

The progressive and serious-minded member of Alabama's organized medical profession has long been aware of the very real shortcomings inherent in rural practice insofar as providing facilities for keeping abreast of the times for the family practitioner whose work and environment shut him out from those educative stimuli of the clinic and hospital which are so readily accessible to his urban confrere.

The State Board of Censors, the Association's standing Committee on Postgraduate Study, and the Association's executive, the State Health Officer, for some years, have been not only conscious of the need for putting forth an effort to bridge this gap but have sought to enlist the aid of outside agencies in financing "refresher courses"

for our rural doctors. Several years ago a beginning was made, when, with the aid of the Children's Bureau of the Federal Government, a splendid course of lectures and demonstrations in obstetrics was given throughout the State by Dr. James R. McCord. This was followed later by a similar course in pediatrics. The appreciative manner in which these efforts were received by the physicians prompted further action along this line; and, some two years ago, an approach was made to the Commonwealth Fund to include the Alabama medical profession in its plan of extension courses conducted for physicians from Tulane University in one or more of the Southern States. This plan is a more pretentious and expensive one, designed to extend over at least a three-year period and with financial participation on the part of three agencies; viz., the Commonwealth Fund, The Medical Association of the State of Alabama and the

official health department of the State, which last agency, because of the acknowledged importance of the practicing physician in any program of expanded health service, is encouraged to utilize a portion of federal funds for professional educative purposes. After much study and many conferences between representatives of the interested agencies concerned, the State Board of Censors submitted, at the 1939 annual meeting of the Association, the completed plans for these postgraduate courses, to which final approval was given by that body; and, as a consequence, during the summer months of 1939, a series of lectures were given throughout the State on diagnosis and internal medicine under the auspices of two outstanding teachers and clinicians, Drs. V. P. Sydenstricker and Julius L. Wilson. During the ensuing year these courses will be resumed and will cover some other important field of medicine of special interest to the general practitioner.

But the Commonwealth Fund's interest in medical education is even more broadly inclusive. It seeks to promote, in selected states whose economic status and educational facilities for the rural profession are necessarily restricted and where an appreciative attitude prevails, still other stimulating programs for the improvement not only of the rural medical practitioner but also of the hospital facilities of the community which he serves. In short, over and above participation in a program such as outlined above and which is now operative in Alabama, beginning with 1940, the Commonwealth Fund has extended to the medical profession of this State an opportunity of participation in two other important programs which the writer feels offer exceptional opportunities to our rural doctors and in which both he and the State Board of Censors have manifested a vital concern.

These programs cover (A) Medical Postgraduate Study; and (B) A Rural Hospital Program.

A

MEDICAL POSTGRADUATE STUDY

The following brief outline gives the salient points required of an applicant who may wish to avail himself of the opportunities of such postgraduate work:

The Commonwealth Fund, of New York City, is making available fellowships for postgraduate study to members of The Med-

ical Association of the State of Alabama. The work will be given at Vanderbilt University Medical School, Nashville, Tennessee, beginning, most likely, around the middle of June. The fellowships are for one or two months' duration and include a review of work in the four subjects: Internal Medicine and Diagnosis, Surgical Diagnosis, Pediatrics, and Obstetrics and Gynecology. The individual applying may request a month's work in any one of the four subjects named. If, however, he wishes to take two months' work he must choose between Surgical Diagnosis and Internal Medicine and Diagnosis during the first month, and between Pediatrics and Obstetrics and Gynecology during the second month. The first month will begin in mid-June and the second month in mid-July.

The fellowship carries a stipend of \$250 for each month awarded, plus a refund of tuition and actual travel expense to and from Nashville.

Qualifications: The applicant must be a graduate of an accredited or "grade A" medical school; a member in good standing of The Medical Association of the State of Alabama; should have been in general practice for at least five years; should, preferably, be under 45 years of age; and must be a resident in a community of less than 10,000 population in which he expects to continue to practice.

Application blanks may be obtained directly from the Division of Public Health of the Commonwealth Fund, 41 East 57th Street, New York City, or from the Secretary of the State Board of Censors, J. N. Baker, Montgomery.

All applicants should return the forms properly filled out to the Commonwealth Fund. All eligible applicants will be interviewed by a representative of the Fund in Alabama prior to May 1, 1940. The forms should be returned promptly so that interviews may be arranged for by early April. The awards will be made by the Fund's Committee on Postgraduate Fellowships after the interviews and review of all eligible applicants.

B

RURAL HOSPITAL PROGRAM

This is a program in which, no doubt, many of our physicians will be deeply interested. It may be added that it is also one to which the Fund has given a vast amount

of thought and study in an effort to guide it along sane and constructive channels. The State Health Officer feels that the doctors and the people of any Alabama community should count themselves fortunate if successful in enlisting the Fund's support in such a program. In order that interested members of the profession may acquaint themselves with some of its details and the better appreciate their own responsibilities in the program, there are reproduced below two pamphlets released by the Fund bearing on this subject. The second, entitled "Rural Hospitals," is an exceptionally lucid portrayal of what a modern community hospital should be and points out the incalculable benefits to flow from such an institution when properly conducted and staffed. It is to be hoped that the profession's response to this tender of aid on the part of the Fund will be not only prompt but also of such a gracious sort as to stimulate a spirit of mutual confidence and co-operation.

THE COMMONWEALTH FUND RURAL HOSPITAL PROGRAM

Under the Rural Hospital Program the Commonwealth Fund is prepared to give financial aid to one rural area each year to establish a general community hospital. Areas eligible for consideration are those in which the need of general hospital facilities is evident. For the purposes of the program a rural area is described as one with a radius of twenty-five to thirty-five miles from a recognized trade center and in which there is no urban community having a population larger than 15,000. The absence of reasonably adequate and accessible hospital facilities within the area is considered to be evidence of need. Additional requisites for consideration are the assurance of active community-wide interest in the project and the cooperation of the medical profession and of agencies engaged in organized health activities throughout the area. In a similar setting and under other favorable conditions the replacement of an existing hospital may be considered under this program, or additions and alterations may be undertaken.

It is contemplated that hospitals established under this program will be of twenty-five to fifty-bed capacity and that the services of the institution shall be available to all residents of the area for the care of acute general conditions, without regard to color, race, creed, or economic status. A plant thoroughly modern as to construction and equipment is planned for every area receiving an award. Approved modern facilities for diagnosis and treatment such as laboratories and x-ray equipment will be furnished. Out-patient activities are contemplated as an important branch of the community services to be offered and active cooperation with public health agencies, both official and voluntary, will be encouraged in the expectation that the hospital

will become a center for the improvement of all health activities of the community. In order to stimulate these developments the Fund is prepared to offer short-term postgraduate fellowships to physicians in the area and to hospital personnel when needed, and further assistance to the hospital for local educational activities in the medical and nursing fields.

Since it is required that the facilities of the institution shall be held available for all residents of the area, all reputable physicians having unlimited licenses and practicing in the hospital area shall be considered eligible for appointment to the medical staff.

Under the conditions of the award, the Fund agrees to contribute from \$215,000 to \$300,000 toward the building and equipment costs for a fifty-bed hospital, and lesser sums as necessary to complete smaller institutions. In addition, the Fund will furnish plans and specifications for building, will advise in the purchase of equipment, and in the organization and operation of the proposed hospital. The local community is required to provide a site with service connections to the site line and the sum of \$25,000 to \$50,000, depending upon the size of the hospital needed and local financial capacity, this sum to be applied to building and equipment costs; to operate the hospital in accordance with approved standards; and to guarantee to meet the operating and maintenance cost of the institution. It is estimated on the basis of experience that the operating deficit incurred through rendering free and part-pay service will amount to from \$10,000 to \$12,000 annually. Full responsibility for the administration of the project, both building and operation, is vested in a local hospital authority. This authority usually takes the form of a charitable corporation composed wholly of local people. Under favorable conditions, cooperative administration by public and private agencies may also be acceptable; and administration by a local public agency created for the purpose will be considered. The project is undertaken by written agreement between the local hospital board and the Fund. This agreement defines the respective responsibilities, financial and other, of the local board and the Fund and specifies operating standards in detail. The contribution by the Fund is an outright grant paid over to the local board to meet building costs as they are incurred. The Commonwealth Fund will assume no administrative responsibility for either construction or operation.

Hospitals erected under this program are located in Murfreesboro, Tennessee; Farmville, Virginia; Glasgow, Kentucky; Farmington, Maine; Beloit, Kansas; Wauseon, Ohio; Kingsport, Tennessee; Tupelo, Mississippi; Ada, Oklahoma; and Provo, Utah; and a building improvement project is also under way in Bristol, Virginia-Tennessee. In addition, a hospital is under construction in Lancaster, South Carolina, and an award has been made to the area surrounding Pittsfield, Illinois.

Application forms for an award under this program may be secured from the offices of the Fund by residents of rural communities conforming to the above general description.

RURAL HOSPITALS

For more than ten years the Commonwealth Fund has been building rural hospitals. By this the Fund means much more than putting up suitable buildings in which rural hospitals can be housed. The building process begins before dirt flies and continues long after the throng of curious visitors has trooped out of the corridors on the opening day. What the Fund tries to build is the hospital itself—that complex group of community servants who provide care for the sick in the place prepared for them.

No one can gainsay the importance of a proper place in which doctors, nurses, and technicians can make their respective contributions to the comfort and safety and recovery of the sick. One has only to glance into dingy wards, cramped operating rooms, makeshift laboratories, exasperating kitchens to realize how hard some communities make it to give the sick efficient care. The basic planning that reduces needless coming and going, the safety factor in well-separated operating and delivery rooms, the provision of adequate and accessible x-ray apparatus and well-stocked laboratories, even the color on the walls—these are worth whatever they cost, for they stiffen morale in patients and attendants alike, reduce fatigue, permit careful and orderly procedure. But the Fund, though it shares with the communities concerned their satisfaction in bright and ample hospital quarters, knows that a good plant is no guarantee of good hospital service.

The essentials in such service are three: competence, organization, and a sense of responsibility to the community. Competence comes into play when the hospital is staffed with a sufficient number of well-trained workers to do the work it can properly be expected to do. There must be competent nurses and enough of them; the Fund believes that they should be graduates, with helpers working under their supervision. There must be a competent person to give anesthesia, and the Fund believes that in the small hospital this person should be a nurse trained for the purpose rather than a general practitioner not specially trained. There must be a competent person to run the x-ray machine and make ordinary laboratory tests; in small hospitals it is practicable to combine these duties in a single member of the staff. There must be competent administration, and—though this is one of the most difficult posts to fill satisfactorily—the Fund believes that under varying circumstances such competence may be found in a doctor, a nurse, or a layman. The personnel will remain competent only if they are reasonably comfortable and happy in their work, which has led the Fund to provide housing for nurses outside but close to the hospital, and to suggest that vacations and sick leave, with pay, be regularly offered to employees.

Competence in the medical staff is not so easy to assure as competence on the part of employees who are paid by the hospital. The traditions of the medical profession are extraordinarily individualistic; doctors know who does good work and who does not, but they are loath to accept classification by any outside authority beyond the minimal level which is fixed by state licens-

ing. It is the privilege of the doctor to choose whether or not he wishes to practice in a given hospital, and to open his own hospital if he prefers. Without a modicum of good will on the part of physicians the hospital cannot render a service of high quality. The hospital that wishes to assure itself of the competence of the physicians practicing in it must show a combination of tact and firmness which is learned only by long experience.

Fortunately it is also a tradition in medicine that when a man finds a problem too difficult for him, or one which sets up a persistent doubt in his mind, he turns to another doctor for help in solving it. By setting up the machinery for frequent consultation with recognized authorities outside the local group, the hospital can do much to reinforce the competence of its own men. Particularly useful, in the group of hospitals in which the Fund is interested, is the routine consultation which takes place between members of the staff and skilful roentgenologists and pathologists.

Competence in medicine is a relative term, and the man who is competent this year may not be so next year unless he learns what has been added to scientific medicine in the interim. Continuous study is the price of efficiency. Some of this study goes on in the scanty leisure of the thoughtful man: he learns from his own experience if he has the character to do so. Doctors learn much from each other if they are not afraid to share experience, and such sharing can be one of the best assets of the community hospital. Doctors learn from time to time by frankly going back to school; the Fund has encouraged this sort of learning by offering fellowships for post-graduate study at good teaching centers, and has supplemented it by helping hospital staffs to bring good teachers now and then to the hospital.

Organization can be a prop to competence. A basic element in the standards which the Fund suggests for rural hospitals is that the medical staff shall be organized, and that the hospital shall make available to the staff tools for the organized analysis of its own work. Records are kept according to a stated plan, and filed for easy reference. The staff meets regularly, and at its meetings, if the spirit of the group is progressive, probes deeply into the problems that face individual doctors in the hospital. Staff meetings at which puzzling or fatal cases are thoroughly explored, or at which the staff exercises its mind on diagnostic problems set up for teaching purposes (one such staff has been taking the Cabot cases in the *New England Journal of Medicine* as the basis of discussion) are a revelation to men accustomed to more perfunctory exercises. It takes leadership and conscientious work by staff committees to get such habits established. When the spirit of give-and-take has become so firmly ingrained that men share experience informally from day to day the importance of organization may decline, but to weld a group of traditional individualists into a cohesive staff is itself a major task. A surgeon in one of the Fund hospitals was asked what change the hospital had made in local practice. "We do better diagnosis," he answered. "Why do you do better diagnosis?" he was

asked. "We pool our experience," he said, and then added "of course we do a better work-up with all the tests we can make now." When men work together, a hospital is in the making.

In more tangible details organization greases the wheels of hospital operation. The superintendent is the key person in hospital organization. As the responsible executive, under authority of the board, he or she must keep an even balance between the rights and privileges of various members of the staff. Free care must be systematized lest one man be burdened unduly or another pre-empt those advantages, in the way of prestige or professional experience, which all should share. Hospital finances must be managed in an orderly way, and the superintendent prepares for approval by the board the budget which controls them. Hospital charges must be levied impartially, and the shifting boundary between those who can pay and those who cannot must be traced with discretion. Firmness in the collection of fees must be tempered by a decent regard for human misfortune and a sympathetic reading of human character. The hospitals sponsored by the Fund expect to do at least a quarter of all their work without cost to the individual served.

This leads directly into the matter of responsibility to the community. It is understood when the Fund offers aid in the building of a hospital that it shall be open to citizens of the community without regard to race, creed, color, or economic condition, and that its purpose is first to serve the needs of the sick. The convenience of the physician necessarily takes second place, as it does in his own home and office practice. Because community interests are paramount, the hospital is administered by a board representing the community, and these laymen take full responsibility for all the decisions in which the community has a stake.

Paramount among these is the decision as to which doctors in the community shall be permitted to practice in the hospital. Without going to the limit of a closed staff—which might defeat the purpose of a community hospital by barring too many men from the educational influences centering in it—the board must see that incompetent men are excluded, and that in fields where relevant qualifications can be defined in terms of training and experience, especially in major surgery, a line is firmly drawn between those who are ready to use the facilities of the hospital and those who are not. This is an uncongenial task for a lay board, even with competent advice, but the more seasoned of them accept it cheerfully and perform it well. Sometimes the decision which lets one man in and shuts another out is taken with good grace by a doctor who recognizes his limitations and adapts his practice to them (there is no reason why all good physicians should be surgeons); sometimes the excluded man turns his back on the hospital in disgust; sometimes he waits till he has opportunity to complete the required minimum of training and presents himself again. To bring some sort of order into the rural practice of medicine, so that men do the work they are best fitted for instead of competing indiscriminately for the rewards of

surgery and the other specialties, is one of the most useful functions the hospital can perform. It is the right of the people who have shared in the creation and support of a hospital to know that the men who work in it are, within reasonable limits, fit to do so.

Because accident and disease are unpredictable, and speed is sometimes the essence of good care, the hospital which is fully responsible to its community should have available at all hours a competent medical man who is prepared, if no one else is immediately available, to do what needs to be done instantly, and to pave the way for the work of the staff physicians. The Fund meets the cost, in the early years of these hospitals, of employing a resident physician—a young man suitably trained, but not yet at the point where he is ready to practice independently, and who can profit by his association with the staff as a stage in his own professional training. The resident is definitely limited in what he does for the patient; he acts only as the staff physician's deputy and assistant. But he does examine patients, take their history, report his findings to the staff physician, assist at the operating table, help in writing records, and carry out the physician's orders for medical procedures. In general he saves the hospital from awkward gaps in the provision of medical service.

A sense of responsibility to the community leads also to the provision of outpatient service. This is in effect a means of extending medical care to those able to go to a doctor but unable to pay his fees. Its advantages over the private practice of medical charity by physicians in their own offices are twofold: it tends to distribute the burden equably, and it enables the doctor to do better for his patients, with hospital equipment at his elbow, than he would usually be able to do elsewhere. How outpatient service will fit into more ambitious plans for the medical care of the indigent remains to be seen; for the present it seems to be a sensible approach to a difficult and omnipresent problem.

For the sake of all these values in hospital service the Fund has not been content merely to meet the cost of erecting hospital buildings. To be sure, it gives the major part of the money needed to construct and equip a hospital, but it gives also painstaking technical service which is not less important. The nature of community hospital service as the Fund sees it is clearly presented to those who apply for aid, and many of the considerations set forth here are embodied in definite standards to which the community is invited to pledge itself. For at least five years after the hospital is opened, members of the Fund staff visit it frequently to offer advice in meeting both emergencies and typical problems. During this period, also, reports of service rendered, in terms of both quantity and quality (so far as this can be indicated in statistical ways) are made to the Fund in accordance with forms carefully worked out for the purpose. Building a hospital is a difficult job, and one which cannot be accomplished without persistent effort.

The ninth hospital to be built in general accord with this conception of hospital service was opened in Ada, Oklahoma, in July, 1938. The tenth

is now under construction at Provo, Utah; and the eleventh award has been made to Lancaster, South Carolina. At Bristol, on the Virginia-Tennessee border, the Fund has made a cooperative arrangement of a new type with the Kings Mountain Memorial Hospital. In return for local agreement to put this institution on a sound financial footing and bring its operation into line with these standards, the Fund is meeting the cost of modernizing the plant and introducing resident medical service.

In the sense here set forth, the Fund hopes to continue building rural hospitals.

NEW POSSIBILITIES OF FEDERAL AID FOR HOSPITAL BUILDING IN NEEDY RURAL AREAS

Since the preceding article, dealing with the possible ways in which assistance for hospital construction might be extended through the Commonwealth Fund went to press, the State Health Officer has received from the Surgeon General of the Public Health Service the communication set forth below which, should the program materialise, would unquestionably aid certain areas within our State where hospital facilities, certainly for the needy and near-needy, are now nil. It will be noted that this program contemplates the construction of two kinds of hospitals—general and for the tuberculous. While not so stated in this communication, it is conceivable that consideration may be given to the possible taking over and remodeling of existing private hospitals for community service, where such might be available. It is further seen that the whole contemplated program revolves about a *community hospital*, so equipped and manned as to serve all classes—the needy as well as the affluent. In such a program, it must be borne in mind that the maintenance feature becomes the responsibility of local governmental agencies; no small item and a continuing one, which will call for most careful planning on the part of the county, the municipality and the State. For long the medical profession and its health department have been aware of this distressing lag in our social machinery, as evidenced by the bills introduced into the last Legislature, which sought aid both for the tuberculous and for the needy in general hospitals.

Furthermore, this suggested program, emphasising as it does, the extension of aid to those areas and states where actual need can be shown, seems quite in harmony with

the platform recently advocated and announced by the American Medical Association.

Dr. J. N. Baker,
State Health Officer,
Montgomery, Alabama.

Dear Dr. Baker:

Your attention is invited to the attached statement of a tentative plan which the President is considering for the building of hospitals in localities where the deficiencies in such facilities are associated with limited economic resources.

In order that further understanding may be reached as to the nature and extent of the need for additional hospitals, especially to serve rural areas, I am requesting that you supply the best estimate that can be made on the basis of available information. This estimate should express the combined judgment of agencies concerned with the provision of hospital care. More specifically the data that would be helpful will include:

1. The number of general hospitals which are needed in areas as described.
2. The aggregate number of beds.
3. The total population to be served.
4. The number of tuberculosis hospitals which are needed and the capacity of each.

Discussions with hospital experts have led to the conclusion that, except in very sparsely populated areas, it is uneconomical to construct and operate a hospital of less than 50-bed capacity. Furthermore it is our judgment that ideally, the community hospital should serve also as a health center for housing various public health activities of the area.

You will note that the President has suggested that the hospitals be built and equipped at federal expense but that no federal funds would be available for maintenance and care of patients. The operation of the hospitals will be a community or State responsibility.

Preliminary estimate of need should be placed in our hands not later than January 8, 1940. It is understood that such figures as you can supply may be subject to change in the light of more detailed study.

Sincerely yours,
Thomas Parran,
Surgeon General

December 29, 1939.

TENTATIVE HOSPITAL BUILDING PROGRAM

The hospital building program which the President has under consideration is tentative at the present time and relates to the construction by the Federal Government of hospitals and medical centers in communities of poor states which now lack them. The President has indicated his intention of recommending the plan to Congress after thorough study has been given it.

It is the suggestion that the hospital program be started modestly with fifty hospitals as the goal for the present. It is proposed that a committee of doctors advise the Public Health Service

and select the localities applying for help where the need for the hospitals is greatest.

The plan provides that the Federal Government should pay all costs of construction and then turn the institutions over to the local groups who gave assurances that they could manage them in a successful way from the standpoint of health and finances. Title to the buildings, however, would remain in the Federal Government.

The President has suggested a study of the matter with a view to immediate action rather than waiting for a complete and perfected plan for a health program such as that proposed in the Wagner bill. He has observed that those states which have the most wealth are able to put up the most money to get Federal aid and these states are the ones where health conditions are the best. Conversely the poor states are unable to match Federal grants and these are the ones where hospital facilities are most needed. There may be several hundred communities in need in the United States where this government might step in gradually to relieve the deficiency in hospitals. This may be called the first experimental step in bringing general medical health centers to places which lack them.

The money for the program, an estimate of which has not been given, would be made available to the Public Health Service with the idea that construction would proceed as on some of the buildings in recent programs in which as much W. P. A. labor as possible was used. At an average the institutions contemplated probably will cost about \$150,000 each and will have facilities for hospitalizing about 100 patients at a time. It would be the function of the United States Public Health Service to make plans and surveys and with the aid of an advisory committee of doctors to assume the responsibility of insuring efficient operation of the hospitals by the local groups.

Committee Contributions

Maternal and Infant Welfare

OBSTETRIC DEATHS

There has been and still is much discussion concerning maternal mortality. Studies of obstetric deaths made by local or state society committees reveal that from one-third to one-half of these deaths were preventable. It has been asked what constitutes an excusable obstetric death? Because generalities are not possible, there are many different factors to be considered in assessing the responsibilities which are grouped under three main headings: the patient, the home or institution, and the attendant. The death may be excusable from the standpoint of the physician but inexcusable from the other two. When the treatment or proper equipment is

not available then the responsibility lies with the physician or the institution or both. Another factor is ignorance of the lay public concerning proper care during the maternal cycle. The responsibility for such ignorance can be placed on the medical profession and their allied colleagues, the health departments. Often patients are given certain instructions but not the reasons why, and, not understanding, they neglect to do as told. If, for instance, a patient has pre-eclamptic symptoms and her physician instructs her regarding elimination and diet and rest but she does not carry out his instructions, she is then responsible to great extent for the condition which may develop. On the other hand, if she had understood why these changes in diet and elimination were essential, there would be little chance that she would commit "suicide" by disregarding the physician's orders.

An excusable obstetric death would be one which occurred in spite of the intelligent and adequate treatment received through proper cooperation between patient, agency (home or hospital), and physician. Each death has to be considered on its own merits and properly evaluated in connection with the environment and the circumstances involved. Physicians everywhere should be alert at all times to prevent the inexcusable obstetric deaths by improving techniques and environment and by bringing to expectant parents the reasons for adequate care during the whole maternity cycle.

Prevention of Cancer

CARCINOMA OF THE BREAST

The third International Cancer Congress met in Atlantic City September 11-15, 1939. Symposia were held on the "Diagnosis and Treatment of Malignancies."

In the symposium on "Carcinoma of the Breast," Grantley Taylor of Boston, Massachusetts, reported cases treated by mastectomy alone, with 45 per cent living and free from any evidence of recurrence when examined five to seven years after operation. He attributes the improvement in results to better surgical treatment and especially to a better selection of cases for radical operation. Operability is about 80 per cent, due, in his opinion, to a preliminary selection by doctors who refer cases to the hospital. Dr. Taylor

does not consider that patients are presenting themselves to doctors earlier since the percentage of cases without axillary involvement remains about constant. Artificial menopause has proved to be a valuable temporary palliative procedure in about a third of the cases with advanced inoperable and recurrent carcinomas.

Dr. Benjamin Shore, New York City, considers that carcinoma of the breast is primarily a surgical disease and that the patient, from the beginning, should be in the hands of a surgeon who has the pathological and technical training to proceed with radical surgery. He considers that the risks, inherent in the aspiration or punch biopsies, are too considerable for general use as a diagnostic procedure. Preoperative irradiation is only advocated in those cases with axillary node involvement. Dr. William Hoffman, New York City, finds that available evidence does not indicate that preoperative irradiation of carcinoma of the breast increases the

five-year cure rate. Most of the breast cancers are radioresistant, especially when they have metastasized to the axillary nodes. Cure by meticulous radical surgery is fully as high as that attained by preoperative external irradiation. External irradiation has its real value in advanced inoperable cases, local recurrence and acute inflammatory carcinomas of the breast, when used as a palliative measure.

One gathers from this symposium that we need to continue stressing the importance of periodic examination, if carcinomas of the breast are to be brought to the attention of the physician before the axillary lymph nodes are involved. The consensus of opinion, of those participating in the symposium, was that external irradiation was most effective as a palliative measure in inoperable carcinomas of the breast. Preoperative irradiation rarely eradicates these carcinomas when the axillary nodes are involved.

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF LABORATORIES

Samuel R. Damon, Ph.D., Director

SPECIMENS EXAMINED

NOVEMBER 1939

Examination for diphtheria bacilli and Vincent's	1,427
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	529
Typhoid cultures (blood, feces and urine)	779
Examinations for malaria	1,366
Examinations for intestinal parasites	7,487
Serologic tests for syphilis (blood and spinal fluid)	18,244
Darkfield examinations	35
Examinations for gonococci	1,625
Examinations for tubercle bacilli	1,378
Examinations for Negri bodies (microscopic)	33
Water examinations (bacteriologic)	765
Milk examinations	2,216
Pneumococcus typing	56
Miscellaneous	815
Total Specimens	36,755

THE DIAGNOSIS OF EARLY SYPHILIS

In view of the widespread interest in the detection of syphilis, the following extracts from a paper by Joseph Earle Moore,¹ one of the leading syphilologists of the country, are

1. Moore, Joseph Earle: J. Connecticut M. Soc., 1938, 2: 70.

of interest as indicating the proper procedure in establishing the diagnosis.

"For both general practitioner and expert syphilologist alike, the clinical diagnosis of early syphilis is unreliable. The recognition of both primary and secondary syphilis, in either male or female, and either genital or extragenital, is a laboratory, not a clinical procedure. It is trite to reemphasize the old cliché—'syphilis is the great imitator'—but in this connection it needs constant reemphasis. There are at least thirteen common diseases with which primary syphilis, and some forty common diseases involving the skin, mucous membranes and their appendages with which secondary syphilis may be confused.

The diagnosis of early syphilis will be served best if every medical student and every physician will memorize the five diagnostic maxims for primary syphilis.

1. *Any genital sore in male or female is possibly syphilis until proved to be otherwise.*
2. *Any indolent lesion anywhere on the body (especially lips, tonsils, fingers), which fails to heal in two weeks, may be primary syphilis.*
3. *The diagnosis of primary syphilis is a laboratory, not a clinical procedure.*
4. *Do not treat suspected primary syphilis locally until repeated darkfields are negative.*
5. *Do not give antisyphilitic treatment on suspicion; prove the diagnosis first.*

The early diagnosis of primary syphilis depends on the proper use of the darkfield microscope. Since few physicians possess this apparatus and fewer still are trained in its use, every patient

with a genital sore and every patient presenting an indolent lesion anywhere on the body should at once be referred to a competent private or public health laboratory with the proper equipment. During the first two weeks of the existence of the chancre, the darkfield examination, provided the lesion has not been treated locally, is ninety-nine to one hundred per cent efficient. At this same time the blood serologic test is usually negative. The importance of the early diagnosis of seronegative primary syphilis lies in the fact that at this stage of the infection nearly one hundred per cent of 'cooperative' patients are 'curable,' whereas a delay of even a few days in arriving at the diagnosis until the blood test has become positive diminishes the chances of 'cure' by about twenty per cent."

All the laboratories of the Alabama State Department of Public Health are equipped to perform darkfield examinations and capillary tubes for the shipment of specimens are available for use by any physician in the State. All specimens to be examined should be submitted in this way as no specimens can be taken in the laboratories.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

MATERNITY CLINICS

During the past two years, Alabama's maternal welfare program has been sponsored by the Maternal and Infant Welfare Committee of the State Medical Association and directed by the Division of Maternal Hygiene of the State Department of Health. The successful progress of this program has been due, in a large measure, to the splendid cooperation of the physicians of the State.

In 1937 there were seven counties conducting maternity clinics. On January 1, 1939 there were seventeen counties and on December 1, 1939 there were thirty-three counties. The number of counties holding clinics has doubled each year. The clinic centers more than doubled the first year and doubled the second year. The sessions per month doubled in number over the first year but were only 50% more the second year. The number of patients admitted to the clinics in 1938 were double those of 1937, while there were more admitted during the first nine months of 1939 than in the twelve months of 1938. Postpartum examinations increased from 17% in 1938 to 22% in the first nine months of 1939. There was a 14% increase, in

the first nine months of 1939, in the number of blood tests reported on new patients, with 96% of admissions having tests reported. Fifteen per cent of those reported were positive and 80% had started treatment. A considerable number of these will not receive adequate treatment due to the failure of the patient to return to the clinic at regular intervals. Climatic conditions, distances from the clinics, and indifference or ignorance on the part of the patient will account for the greater part of these failures. See Tables 1, 2, 3, 4.

Two thousand six hundred and ten of the patients attending the clinics in seventeen counties were delivered during 1938. Fifteen of these mothers died of the following:

Toxemias	2
Eclampsia	2
Pyelitis and postpartum hemorrhage ..	1
Abortion, non-septic with hemorrhage ..	1
Placenta praevia	1
Secondary abdominal pregnancy	1
Pneumonia	3
Tuberculosis	1
Diabetes	1
Bilateral thrombosis of iliac veins	1
Ill defined	1

The number of clinic patients delivered during 1938 was divided into two groups. In one there were 1,565 with 8 maternal deaths and group 2 with 1,045 deliveries with 2 maternal deaths. (The 5 non-obstetrical deaths were not included in either group.) A comparison was made with the number of deliveries in the same area of non-clinic patients and the maternal deaths. See Table 5. Table 6 shows the number of stillbirths and neonatal deaths in the clinic cases and in the non-clinic group. The percentage in the clinic group is not appreciably less. This report does not include the clinics at Hillman Hospital in Birmingham and the Employees Hospital at Fairfield.

Though the increase in the number of clinic centers established and the number of patients admitted has been quite satisfying, there are many phases of the program needing improvement.

Progress in the maternity clinic program in Alabama has been quite satisfactory so far as the increase in number of clinic centers, sessions and patients is concerned. Nevertheless, there is ample need for improvement in the various phases of our program: We need to bring patients under

medical supervision earlier in pregnancy; we need to increase the average number of patient visits to the clinics; we need to improve the quality of medical service rendered, through better working facilities and equipment; we need to see that adequate antisyphilitic treatment is given to syphilitic women during every pregnancy; and we need to have a higher percentage of the clinic patients return for postpartum examination.

TABLE 1

ALABAMA MATERNITY CLINICS			
	1937	1938	(9 Mo.) 1939
No. counties	7	17	31
No. centers	16	43*	65
No. sessions	600	1187*	1314
No. clinicians	33	62	80

*Including Hillman Hospital, Birmingham.

TABLE 2

ALABAMA MATERNITY CLINICS Antepartum			
	1937	1938	(9 Mo.) 1939
No. new patients	2192	5109*	4208
No. visits	7631	17204*	14347
Average no. visits	3.05	3.36	3.41

*Including Hillman Hospital, Birmingham.

TABLE 3

ALABAMA MATERNITY CLINICS Postpartum			
	1937	1938	(9 Mo.) 1939
Patients examined	335	878*	976
Per cent	15	17	22

*Including Hillman Hospital, Birmingham.

TABLE 4

ALABAMA MATERNITY CLINIC Syphilis				
	1938		(9 Mo.) 1939	
	No.	%	No.	%
No. blood test reported	3391	82	4037	96
No. positive	399	11.8	619	15.3

TABLE 5

	Clinic Group	Non-Clinic Group
Total Births		
White	699	
Colored	1911	
Total	2610	23,572
Maternal Deaths		
White	4	67
Colored	11	88
Total	15	155
Stillbirths		
White	10	372
Colored	72	651
Total	82	1023
Neonatal Deaths		
White	18	451
Colored	53	433
Total	71	884

TABLE 6

	Clinic Group	Non-Clinic Group
Group I		
Total Deaths	1505	10,096
Maternal Deaths		
Uncorrected	13	68
Corrected	8	
Stillbirths	36	321
Neonatal	51	325
Group II		
Total Births	1045	13,476
Maternal Deaths	2	89
Stillbirths	46	603
Neonatal	20	487

E. F. D.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

INSTALLATION OF A MECHANICAL SYSTEM OF RECORD KEEPING

For a long time the problem of keeping records, particularly on the venereal diseases, has been becoming increasingly heavy. The volume of records has made it impossible to keep them available currently and statistical reports have been compiled with difficulty merely as a summary of what has happened. It is hoped that all this will be changed with the installation of mechanical equipment which was begun on January 1st.

The Surgeon General of the United States Public Health Service, commenting on the new mechanical system, said: "Results of

the application of modern machine methods of accounting to problems of venereal disease record-keeping, treatment-progress and control open new vistas in public health administration. We no longer need consider statistical data of the number of cases under treatment, amount of drugs used, number of injections, and so on, merely for annual reports or as interesting facts to be filed when they become available several months after their useful life has expired. With new machine methods it is possible to obtain essential information immediately and in form which makes it usable while the patient is still within reach of the physician or clinic.

"The possibilities suggested by this adaptation of modern business methods to public health problems might well revolutionize present-day procedures."

Miss Lida J. Usilton, Senior Statistician, United States Public Health Service, in a paper before the American Public Health Association meeting in Pittsburgh stated: "The machine method of accounting as applied to the venereal disease problem furnishes all administrative officers a device by which the actual performance of treatment units is made currently and readily available. It permits smoother, more effective functioning of these organizations by making all records, which were previously closed in voluminous files, an open book for the use of the clinician. Eight central tabulating units have been established to prepare continuous and cumulative reports from treatment sources in 16 states for administrative and control purposes. These units furnish weekly and monthly reports to 500 individual clinics which draw patients from a population of 38,000,000."

Alabama will have the ninth tabulating unit in the country and it is hoped it will be equally as valuable to us. Not only venereal disease records but birth and death records are being adapted to these new machines. The transition period will probably create some disturbances but once established the system should prove invaluable.

STAGE OF SYPHILIS

The physician lent by the U. S. Public Health Service to evaluate the venereal disease clinics in Alabama has found that most clinics fail to record the stage of syphilis. Since the treatment of syphilis, to a

great extent, is based on the stage of the disease, it is important to note this before treatment is begun.

In the past many of the classifications of the stages of syphilis have been so complicated that it was impossible for the average clinician to consider using them. In Alabama an attempt has been made to simplify the classification so that it can be used without resort to a classification book. If the patient has a chancre, it is considered *primary syphilis*. If there are any manifestations of the secondary stage such as eruption, condylomata, mucous patches, syphilitic angina, etc., it is considered *secondary syphilis*. If the patient knows he is infected and remembers the approximate time of infection, it is classified as *latent less than four years in duration*, provided his infection is within the four-year period and provided also he does not have any evidence of primary or secondary manifestations. These three stages constitute the major arbitrary classifications of early syphilis for treatment purposes, since it is possible in most cases to standardize and routinize the treatment plan.

Syphilis of more than four years duration without signs or symptoms of infection except the repeated positive blood test is classified as *latent more than four years in duration*. But if there are signs or symptoms other than the positive serologic test, then the classification is *late syphilis*. Of course, in the latter stage, it is advisable as far as the record and plan of treatment are concerned to note the type of involvement, such as cardiovascular, central nervous system, hepatic, etc. Syphilis of more than four years in duration with or without lesions requires individualization of treatment to varying degrees.

In a fair number of instances patients infected with syphilis are found who have no knowledge as to when they were infected and have no recollection of a primary lesion or secondary eruption and whose only sign of infection is a positive serologic test.

Determination of the stage will have to depend on several factors, such as age, length of marriage, time of initiation into sex practices, etc. From the treatment standpoint, when it is impossible to even approximate the time of infection or there is some doubt as to the exact length of time of infection, it is well to classify the stage as

latent more than four years in duration, provided, of course, there are no late lesions. It is possible to have a patient with syphilis of less than four years in duration and yet show evidence of late involvement. Lesions, of course, will designate the stage, but without demonstrable lesions the time element must often be the basis of the classification.

BUREAU OF VITAL STATISTICS

Leonard V. Phelps, S. B. in P. H., Director

DECENNIAL REVISION OF CERTIFICATE FORMS

On January 1, 1940 revised certificate forms for registering births, deaths and stillbirths will be placed in use. The present revisions are the result of a study conducted over the past two years.

Study was made of the recommendations of the Committee on the Revision of Certificate Forms of the American Association of Registration Executives, the professional organization of state directors of vital statistics. This committee recognized the need of rewording some of the questions; of adding new ones and of omitting some. Recommendations of the Committee on the Revision of Certificate Forms of the Division of Vital Statistics of the U. S. Bureau of the Census were given extensive study as were also requests of the Children's Bureau, the U. S. Public Health Service and the Social Security Board.

Past experience has shown that those filling out certificate forms did not always give the exact place of occurrence of the birth or death; neither did they give the exact place of residence. In order to properly classify births and deaths according to the residence of the mother or of the decedent it is necessary to know the *geographic* location of residence, which is often different from the *mailing address*. A rewording of the items, together with the insertion of explanatory notes, seeks to improve the usefulness of replies to these questions.

In cooperation with the Social Security Board, two questions were added to the certificate of death, namely that of the Social Security number and the age of the surviving husband or wife. It is expected that re-

plies to them will facilitate a more prompt payment of benefits to its beneficiaries than has been possible heretofore.

The form of the statement of causes of death has been changed to closely resemble that in use in both England and Canada. The principal difference from that of the old form is in the order in which the causes are to be noted, being the reverse of that formerly requested. The immediate cause of death is to be given first, followed by contributory causes in order proceeding backward from the immediate cause. Following this, other conditions of importance not causally related to the immediate cause are to be given.

For purposes of special study, the physician making the statement of cause of death is requested to underline one of the causes as the cause to which he would charge the death if his selection were limited to a single cause.

As far as possible, sufficient space in which to write has been provided for answering questions. This, and the addition of a few questions, has necessitated an increase in the size of the form.

To the birth certificate has been added the question of the mother's mail address. This was done in order to insure, as far as possible, the delivery of notifications of birth which are mailed to parents of new-born infants from the State Department of Health. As previously stated, the place of residence of the mother and mailing address are not always the same. Another addition is that of the name and address of the person who gave the personal particulars to the attendant at birth. Although the name of the informant has been asked for years on the death certificate, this is the first time it has been requested on the birth certificate. Its addition will be of considerable assistance to the health department in its efforts to correct or add to the certificate forms.

The questions concerning the number of children born to the mother have been reworded in order to reduce incorrect replies to a minimum. Their vertical position instead of being horizontal, as formerly, will aid in the accuracy of their completion, it is believed.

In cooperation with the Children's Bureau and the State Department of Education, a question concerning the presence of congenital malformations has been added to the

birth certificate. It is hoped that its completion will give information on the extent of the existence of such deformities as club foot, cleft palate, etc., among the new-born. This question is not included as a legal part of the regular birth certificate but has been made one of supplementary information. Another question which has been added for purposes of obtaining supplementary information only is that of whether a blood test for syphilis was made on the mother during pregnancy.

The stillbirth certificate form is a combination of the birth and death certificate and a new form has been issued for it which will contain changes corresponding to those made on the separate forms.

In closing, I would like to stress the importance of filling out the certificate forms *promptly* after the occurrence of the birth or death. Failure to do so may cause the omission of the completion of some items or the making of erroneous statements.

In cases where a death or a stillbirth occurs and a physician was in attendance and the person acting as undertaker is a member of the family or friend (not a regular undertaker), the State Department of Health would be deeply appreciative if the attending physician would assist the family in the proper completion of other items on the certificate forms other than those which are the regular duty of the physician to complete; also that he call to their attention the requirement that they be filed with a local registrar within the time allowed by law.

It is suggested that the physician in attendance assist the undertakers by filling out the medical certificate at the time of death and, whenever possible, have the certificate at the place from which the body is to be moved for the undertaker to pick up in order that he may fill out the rest of the certificate and file it with a local registrar within 72 hours of death as required by law.

IMPORTANT

Only *new* certificate forms are to be used after midnight, December 31, 1939. All *unused* blank certificate forms should be *destroyed*. All unfilled, completed old certificates should be promptly filed with a local registrar. Blank forms may be obtained from any county health officer or local registrar, or by writing directly to the State Department of Health, Montgomery, Alabama.

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E., Director

SUGGESTED METHODS OF MOSQUITO CONTROL MEASURES ON SMALL ARTIFICIALLY CREATED LAKES

In 1927 the State Board of Health adopted "Regulations Governing the Impounding of Waters." These regulations have the effect of law. The purpose of the regulations is not to penalize any landowner or to restrict the development of any area but is for the sole purpose of preventing, as much as possible, the transmission of malaria within the one-mile zone of the artificially created lake. The construction of a dam and the subsequent impoundment of water is a radical change in land use. After impoundment, conditions are created which provide a favorable breeding place for a particular type of mosquito; namely, the *Anopheles quadrimaculatus*, the malaria-transmitting mosquito of the Southeastern United States. If these mosquitoes could be confined to the owner's residence, after being produced, the State Department of Health would in no way be interested except to point out the danger to the individual property owner. Such, however, is not the case for this mosquito will fly approximately one and one-fourth miles from its breeding place. If the malaria transmitting mosquitoes are not confined to the owner's residence, then the State Department of Health becomes vitally interested as the owner has created conditions which affect the health of the people of the State.

Activities directed toward the control of the malaria-transmitting mosquito on small artificially created lakes may be broken down into three parts; namely, (1) the construction of the dam and the preparation of the area to be flooded, (2) antilarval measures during the mosquito-breeding season, and (3) maintenance of the flooded area after impoundment. These activities occur during different stages in the development of the lake and will be discussed separately.

CONSTRUCTION OF THE DAM AND THE PREPARATION OF THE AREA TO BE FLOODED

The regulations in general require that the area to be flooded be cleared of all vegetation. The zone from fifteen to twenty-five feet shoreward of the high water level

should be cleared of all trees and shrubs. If a few shade trees are desired closer, these will be permitted on small pleasure projects. However, it should be borne in mind that this will add to the expense and difficulty of maintenance. Under no conditions will trees and brush be permitted in the water. The stumps should be cut as close to the ground as possible. Brush and logs which are securely fastened and will be continually submerged at extreme low water, one foot or more, will be permitted in the basin. Considerable difficulty has been encountered in mosquito control operations by the growth of sprouts from stumps which are submerged to a shallow depth or intermittently submerged. Experience has shown that if a girdle is hacked completely around the stump at the surface of the ground and fuel or diesel oil is placed in the girdle, sprouting will be kept at a minimum. This is a very effective and economical method of controlling and eventually eradicating the sprouts.

Vegetation, both plants and shrubs, makes mosquito control more difficult and more expensive. The areas of the lake which are flooded to a depth of about eighteen inches and less are especially favorable for the growth of vegetation. In selecting the site of the lake, consideration should be given to the amount of area that will be flooded to a shallow depth. Where the possible lake sites are limited and a considerable amount of shallow areas will be developed, consideration should be given to stripping a portion of the area to be more deeply flooded and in turn filling the areas where the water would be the shallowest, or feather-edging out. This method may appear rather expensive. However, when the cost of mosquito control is considered over several seasons together with the values resulting from the increased volume of water in the lake and a clean shore line, the advantages will more than offset the original capital outlay.

In connection with section 5 of the regulations and the control of aquatic plants, a bottom drain at the low point of the dam must be installed so as to control the water elevation at will. The size of the drain will depend on the volume of water stored in the lake and the amount of water flowing into the lake. The drain should be large enough to drain the lake in a maximum time of seven days. A bottom drain is necessary for both mosquito control and successful fish

culture as it provides complete control over the water in the pond.

ANTILARVAL MEASURES DURING THE MOSQUITO-BREEDING SEASON

There are three common methods of anti-larval control; namely, (1) water level fluctuation, (2) the application of larvicides, and (3) the maintenance of a clean shore line and water surface and the stocking of the pond with top-feeding minnows (*Gambusia*).

Water level fluctuation is the raising and lowering of the water level of the pond. Experience has shown that the most satisfactory method is to lower the water level and then permit the lake to fill to its maximum elevation within a seven-day period.

In some instances the amount of water flowing into the lake is not sufficient to complete the cycle in seven days. Under those conditions some benefits can be derived from a longer cycle. The level could be gradually lowered for several days and then the lake be allowed to fill to its maximum level. The time elapsing from maximum height to maximum height should not exceed two weeks. If a longer period is employed then there is a possibility of plants invading the zone of drawdown. The distance the water should be raised and lowered will depend on the particular lake. Normally on small lakes of about five acres or less, from one to two feet have been found to be very effective. Under some conditions, particularly where certain aquatic plants have invaded the zone of drawdown, the amount of fluctuation may have to be increased to four feet and even then satisfactory mosquito control may not be obtained. The water can be controlled through the bottom drain either by a gate valve, inlet tower, or some other type arrangement. The value of water level fluctuation can not be stressed too much as this method provides an economical and effective means of controlling mosquito production. Water level fluctuation should be started at the beginning of the mosquito-breeding season, namely, about the middle of May. This is after much of the spawning has been done by several of the most useful varieties of fish. Recent work on fish culture reveals that the amount of fish food is the governing factor of fish production in a particular lake.

Larvicides are applied at weekly intervals to the water surface containing vegetation

and flottage. There are many types of larvicides, but a larvicide normally consisting of three parts kerosene and one part black oil has, through many years of experience, proved to be the most satisfactory type for small lakes in Alabama. This mixture can best be applied by a knapsack sprayer equipped with a Bordeaux nozzle. In many instances fruit tree sprayers and sprayers used for spraying chicken houses or animals have been found to be quite satisfactory. Normally about two gallons of the oil mixture will cover about one acre when the water surface is relatively clean, and a greater quantity of the oil mixture is required to treat an acre where the area is grown up with vegetation or covered with fine flottage. It should be remembered that larvicidal operations must be carried out at weekly intervals; also, that the killing power of the larvicide is soon dissipated after it is applied to the water surface.

All lakes should be stocked with top-feeding minnows, *Gambusia*. This minnow is native to this state and reproduces very rapidly in lakes which are not overstocked with game fish. It should be borne in mind that the minnow is very effective in destroying mosquito larvae under favorable conditions, but there is a limit to its usefulness as a mosquito control measure and in no sense should it be considered a "cure-all" for mosquito control. The success of *Gambusia* controlling mosquito production has a direct relation to the amount of vegetation and flottage in the pond. The vegetation and flottage provide food and harborage for the mosquito larvae as well as constituting conditions which make it difficult for the minnows to prey upon the larvae.

MAINTENANCE OF THE FLOODED AREA AFTER IMPOUNDMENT

An artificially created lake, like other works of man, requires maintenance. The amount of maintenance will depend on the particular lake. If some reconditioning work is continually carried out, the whole problem will remain simple. The major amount of work should be done during the fall and winter months. If the lake has not been properly prepared, or annual maintenance work has not been carried out, the trees and large shrubs within the flooded area and within the zone from fifteen to twenty-five feet shoreward of the normal summer shore line should be removed. On

some lakes during the fall months the water level recedes leaving a strip of vegetation around the lake margin. Under certain conditions this zone could very profitably be burned. Another method would be to scrape the area. This could be done with a road scrape or a slip scrape. This operation would destroy the root system of many of the plants as well as deepen the shallow areas. Following the fall and early winter reconditioning, some arrangement should be made to raise the water level of the lake from one to two feet above the normal summer level. The most satisfactory method would be to keep the normal summer level about two feet below the crest of the spillway. This method will permit the lake to fill to its maximum elevation during the winter months. An inlet tower, with removable boards, connected to the bottom drain has proved to be a very satisfactory type of arrangement for providing a flexible control over the water level of the lake. Another method would be to provide two spillways for the pond. The crest of the small or summertime spillway should be about two feet below the emergency or maximum spillway. During the winter the lower spillway should be closed and the water held at the higher elevation. The water level of the lake should be held at this level until the beginning of the mosquito breeding season, which is normally about the middle of May. Then the water level should be lowered to the normal summer level. This simple and inexpensive method of operation during the winter months will greatly reduce the amount of mosquito control work required during the summer months, as a clean shore line and water surface will be provided at the beginning of the season. This method of operation will tend to inhibit the invasion of the lake by certain plants.

Experience has shown that as the amount of vegetation in the lake increases, mosquito control becomes more difficult and expensive. In certain instances the lake will not respond to any of the control measures, and the only alternative is completely dewatering the area and starting over again. Reports of recent experimental work on fish culture at Auburn, Alabama, indicate that most plants are of very little value as a fish food and many are detrimental. They recommend that all plants that begin to invade a lake be promptly removed. Once certain

plants become established in a lake, the only satisfactory method of their removal is to completely dewater the area and place it under cultivation for one or more seasons.

J. C. C.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN
ALABAMA
1939

	Oct.	Nov.	Estimated Expectancy Nov.
Typhoid	20	14	32
Typhus	44	44	25
Malaria	1036	609	395
Smallpox	0	1	1
Measles	16	20	28
Scarlet fever	179	192	152
Whooping cough	116	90	74
Diphtheria	146	161	226
Influenza	129	497	213
Mumps	27	13	31
Poliomyelitis	4	6	4
Encephalitis	4	1	2
Chickenpox	12	97	81
Tetanus	5	8	6
Tuberculosis	249	164	227
Pellagra	25	15	20
Meningitis	10	6	10
Pneumonia	114	224	177
Syphilis	1213	1443	220
Chancroid	3	1	7
Gonorrhea	320	316	157
Ophthalmia neonatorum	0	0	1
Trachoma	0	0	0
Tularemia	0	0	0
Undulant fever	4	3	2
Dengue	0	1	0
Amebic dysentery	2	1	0
Cancer	133	142	0
Rabies—Human cases	0	0	0
Positive animal heads	11	8	...

*As reported by physicians and including deaths not reported as cases.
The Estimated Expectancy represents the median incidence of the past nine years. With the venereal diseases, clinic cases were not included prior to 1936.

Medical News

(Secretaries of county medical societies and other physicians will confer a favor by sending for this section of the Journal items of news relating to society activities.)

The Clinical Orthopaedic Society had its twenty-seventh annual meeting on October 13 and 14 at Oklahoma City and Little Rock. A very interesting clinical program was given at both places under the supervision of the Oklahoma Orthopaedic Society and the University of Arkansas School of Medicine. Dr. Earle Conwell of Birmingham is President of the Society.

* * *

Southern Sectional Meeting of the American College of Surgeons will meet in New Orleans, January 17, 18 and 19 and there is every indication that it will be the best sec-

tional gathering in the history of the College.

Two unusual features of the meeting will be the honoring of the greatly beloved Doctor Rudolph Matas, and the opportunity of seeing the new \$12,500,000 Charity Hospital in which a considerable part of the clinical and hospital program will be held.

Headquarters will be at the Roosevelt Hotel.

In addition to the clinics and clinical demonstrations and conferences at the hospitals, scientific sessions, conferences, and panel discussions will be held at the headquarters hotel. Among the subjects to be discussed are cancer, fractures, thyroid surgery, varicose veins, intestinal obstruction, cranio-cerebral injuries, sinusitis, stomach surgery, prevention of postoperative pulmonary complications, and many more limited topics. Medical motion pictures will be shown daily. These will cover surgical technique and other aspects of general surgery, eye, ear, nose and throat surgery, and the other specialties.

A session of general interest will be the Conference on Graduate Training for Surgery on Thursday afternoon, January 18. At this session the program of the American College of Surgeons in graduate training for general surgery and the surgical specialties will be described, and a report made on the accomplishments to date. Talks on significant phases of the subject will also be presented, followed by general discussion.

The program for the Hospital Conference which will also be held during the three days of the Sectional Meeting will cover a wide variety of subjects of interest to hospital personnel, and will include a special program of medical motion pictures on hospital topics. On Friday afternoon a study tour of the Charity Hospital is scheduled.

Educational and scientific exhibits will be placed in the ballroom of the headquarters hotel. Daily bulletins will be issued listing the various sessions, conferences, clinics, and other events of the day.

The meeting will close with a session open to the public on Conservation of Health. This meeting will be held in the ballroom of the hotel.

The medical profession at large, as well as hospital trustees, superintendents, nurses, and other hospital departmental personnel, will find a great deal to interest them at this

meeting. Members of the State Medical Association are most cordially invited to attend. There will be no registration charge.

* * *

Members of the profession are cordially invited to the Atlanta Graduate Medical Assembly, January 15, 16, 17 and 18 at the Biltmore Hotel, Atlanta, Ga.

* * *

The Mississippi Valley Medical Society offers annually a cash prize of \$100, a gold medal, and a certificate of award for the best unpublished essay on any subject of general medical interest (including medical economics) and practical value to the general practitioner of medicine. Certificates of merit may also be granted to the physicians whose essays are rated second and third best. Contestants must be members of the American Medical Association who are residents of the United States. The winner will be invited to present his contribution before the next annual meeting of the Mississippi Valley Medical Society at Rock Island, Ill., Sept. 25, 26, 27, 1940, the society reserving the exclusive right to first publish the essay in its official publication—the Mississippi Valley Medical Journal (incorporating the Radiologic Review). All contributions shall not exceed 5,000 words, be typewritten in English in manuscript form, submitted in five copies and must be received not later than May 1, 1940. The winning essay of the 1939 contest appears in the January 1940 issue of the Mississippi Valley Medical Journal (Quincy, Ill.) Further details may be secured from Harold Swanberg, M. D., Secretary, Mississippi Valley Medical Society, 209-224 W. C. U. Building, Quincy, Ill.

* * *

Second Annual Congress on Industrial Health, sponsored by the Council on Industrial Health of the American Medical Association, will be held at the Palmer House in Chicago, January 15 and 16.

* * *

The Chicago Medical Society announces a symposium on industrial medicine and traumatic surgery at St. Luke's Hospital, January 17.

The fourth annual meeting of the New Orleans Graduate Medical Assembly will be held at the Roosevelt Hotel, February 26-29, 1940, honoring Dr. Rudolph Matas, Professor of General and Clinical Surgery, Emeritus, Tulane University School of Medicine. Dr. Matas is nationally and internationally known for his work in the fields of vascular surgery and a reception will be given on the opening night of the meeting as a tribute to his sixtieth year in active practice.

In keeping with the established policy, eighteen guest speakers have been carefully selected because of their actual experience and their ability to present their subjects. The program has been planned to meet the needs of all members of the profession and although the subjects will be approached from specialized viewpoints, the presentations will be of a strictly practical nature and of great value in keeping all groups abreast with medical progress. The Program Committee has especially planned to have allied subjects on the same or successive days.

Also included in the program will be daily round table luncheon discussions, approximately four hundred feet of outstanding scientific exhibits, medical motion pictures and fifty-two interesting technical exhibits. In addition, there will be a symposium, a clinical pathological conference and an escorted tour of the new \$12,500,000 Charity Hospital which accommodates 2,500 bed patients.

Because of the wealth of clinical material in New Orleans, and in response to the many requests from registrants, the New Orleans Graduate Medical Assembly will conduct clinics in medicine, surgery and allied specialties in the hospitals on Friday, March 1, the day following the scheduled Assembly dates.

The registration fee of \$10.00 covers all of the above features, including the reception and daily round table luncheons. The program is well planned and the meeting will be an enjoyable and profitable vacation. For further information write, The New Orleans Graduate Medical Assembly, 1430 Tulane Ave.

* * *

The sixth annual meeting of the Mississippi Valley Medical Society will be held at the Hotel Fort Armstrong, Rock Island, Illinois, September 25, 26, 27, 1940.

Karo in High-Caloric Feeding

Infants . . .

KARO is ideal in concentrated milk mixtures because it is saturated with maltose-dextrins, easily digested, not readily fermented and does not cloy the appetite for other foods.

Children . . .

KARO provides 60 calories per tablespoon, added to foods and fluids, when the child fails to gain in weight on an adequate diet or his vitality is depleted during convalescence.

Adolescents . . .

KARO is invaluable with each meal to help fulfill the enormous energy requirements of adolescence. Accessory meals may be prescribed with advantage and KARO added to foods and fluids.



CORN PRODUCTS REFINING COMPANY

*Invites inquiries from Physicians
... for further information*

17 BATTERY PLACE • NEW YORK CITY

Miscellany

UTILIZATION OF ELECTRICITY BY THE HUMAN RACE IS NOT NEW

SCIENTISTS THINK THAT NERVOUS ENERGY IS ONE
OF ITS MANIFESTATIONS, CALIFORNIA
PHYSICIAN SAYS

Although electricity is new in some of its manifestations, the human machine has used it effectively for hundreds of generations in the form of nervous energy, George A. Skinner, M. D., Berkeley, Calif., declares in *Hygeia, The Health Magazine* for January.

"Most of the electric or nervous energy of the human body originates in the large brain," he says, "and scientists think that nervous energy is only another form of electricity. Nervous energy gives reactions that may be recorded and measured exactly as electric energy is recorded and measured. We take advantage of this as an aid to diagnosis especially in heart diseases. This engine of ours will tell its story by means of the electrocardiograph, a marvelous recording instrument utilizing electric currents gen-

erated by the heart muscle.

"All muscles give off electric energy when contracting. The reverse of this process is utilized to make the muscles contract at will by an outside force. A gentle electric current, supplied by a small galvanic battery, is applied to the muscles to assist them when damaged by disease or injury to recover their ability to contract. It supplies the energy that cannot get through from the regular nerves until repair has taken place.

"The latest indications that electricity is of great importance in the body are studies now being made of 'brain waves.'

"While we cannot do much toward replacing a damaged battery or wires in the human machine, we are not entirely helpless. If main lines are cut, we can sometimes repair them by 'splicing,' that is, securing the ends together and giving an opportunity for normal repair. We may even introduce a new piece of wire, or nerve, from some other source to repair the line. But if the central battery, the brain, is badly damaged, the machine is likely to be permanently out of commission."

SILVER PICRATE *Wyeth's*

has shown a

CONVINCING RECORD OF EFFECTIVENESS *in ACUTE ANTERIOR URETHRITIS* *due to Neisseria gonorrhoeae*

The record is based on rigid clinical and laboratory signs before and after treatment.*

- | | |
|-----------------------------|------------------------------|
| 1. Fresh smear | 3. Acid formation in maltose |
| 2. Fermentation of dextrose | 4. Agglutination test |
| 5. Alkali solubility test | |

Silver Picrate is a crystalline compound of silver in definite chemical combination with picric acid. Dosage form for use in Anterior Urethritis: Wyeth's Silver Picrate Crystals used in an aqueous solution of 0.5 percent.

Supplied at all pharmacies in vials of 2 grams

Complete literature on Silver Picrate as used in genito-urinary and gynecological practice will be mailed on request.

*"Treatment of Acute Anterior Urethritis with Silver Picrate," Knight and Shelanski, AMERICAN JOURNAL OF SYPHILIS, GONORRHEA AND VENEREAL DISEASES, Vol. 23, No. 2, pages 201-206, March, 1939.

JOHN WYETH AND BROTHER, INC. • PHILADELPHIA, PA.

THE JOURNAL

of

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Published Under the Auspices of the Board of Censors

Vol. 9, No. 8

Montgomery, Alabama

February 1940

DISRUPTION OF POSTOPERATIVE ABDOMINAL WOUNDS*

By

J. M. DONALD, M. D.
Birmingham, Alabama

Disruption of an abdominal wound following operation is a serious complication attended by a high mortality rate. There has been a revival of interest in this subject since Sokolov¹ in 1932 reported a study of 746 cases of disruption collected from European clinics. Many articles dealing with the problem have appeared in the literature since that time.

A thorough analysis of the cases of disruption occurring at the Hillman Hospital in the last five years has been made, including those cases seen in private practice. Twenty-seven disruptions were found in 5,603 consecutive laparotomies at the Hillman Hospital in the last five years, an incidence of .53%. Jenkins² reported an incidence of .25 to 3% in 1,294 cases collected from the literature, Fallis³ .64% and Singleton and Blocker⁴ .67%.

This figure (.53%) probably does not represent the true incidence, however, since all cases are not properly recorded. Especially

*Read before the Association in annual session, Montgomery, April 20, 1939.

From the Surgical Service of Hillman Hospital.

1. Sokolov, S.: Postoperative Rupture of Abdominal Wounds with Protrusion of Prolapse of the Viscera, *Vestnik Chir.* 65 and 66: 219. *Surg., Gynec. & Obst. International Abstract of Surgery* 55: 157, 1932.

2. Jenkins, H. P.: A Clinical Study of Catgut in Relation to Abdominal Wound Disruption, *Surg., Gynec. & Obst.* 64: 648-661 (March) 1937.

3. Fallis, L. S.: Postoperative Wound Separation: Review of Cases, *Surgery* 1: 523-534 (April) 1937.

4. Singleton, A. O., and Blocker, Truman G. Jr.: The Problem of Disruption of Abdominal Wounds and Postoperative Hernia, *J. A. M. A.* 112: 122-127 (January 14) 1939.

is this true in those cases of incomplete disruption and those treated by strapping rather than by secondary closure. It is thought that many hernias, not explained on the basis of gross infection, are the result of unrecognized incomplete disruptions. Taking these factors into consideration the incidence of disruption would appear to be somewhat higher than that generally recorded.

Five cases occurring in private practice have been added to the 27 cases found at the Hillman Hospital making a total of 32 cases in this study.

There were 21 males and 11 females. Twenty-three occurred in the white and nine in the colored race. The youngest patient was 16 years of age and the oldest 70, the majority occurring between the ages of 20 and 40 (table 1).

Upper abdominal incisions disrupted in 15 or 47% of the group, mid-abdominal in 6 or 19% and low abdominal in 11 cases or 34%. There were no disruptions from McBurney incisions (table 2). Jenkins² reported fifty-two per cent disruptions in upper abdominal and 48% in low abdominal incisions. It is generally agreed that upper abdominal incisions are more apt to disrupt than those in the lower abdomen. The figures above mentioned bear this out when one considers that there are proportionately more incisions made in the lower than in the upper abdomen. Singleton and Blocker⁴ account for this finding in that the vertical incision, which is generally used, cuts across the fibers of the anterior and posterior sheaths of the rectus muscle. These sheaths are the tendonous continuations of the external, internal oblique and transversus muscles. The greatest tension is in a direction parallel with the fibers of the fascia. In the upper abdomen the direction of the fibers is in a transverse direction. The posterior sheath is the tendonous continuation of the internal

oblique and transversus muscles, which are respiratory muscles and constantly in action and during the acts of coughing and vomiting the strain on this fascia is great. It is too much to expect this structure (which is cut across in the usual vertical incision), sutured together with its fibers end to end, to withstand the postoperative strain which may be thrown on it regardless of the suture

TABLE 1					
AGE, SEX, RACE					
Decade	No. Patients	Sex	No. Patients	Race	No. Patients
1. 10-20	7	Male	21	White	23
2. 20-30	6	Female	11	Colored	9
3. 30-40	9				
4. 40-50	4				
5. 50-60	3				
6. 60-70	3				
	32		32		32

material or the way it is used. Singleton and Blocker⁴ advocate the use of a transverse (modified Sloan incision) in the upper abdomen. They also describe a lateral transverse incision for the upper abdomen which they have found very satisfactory. They state that by splitting the fascia in a transverse direction in line with its fibers preservation of the strength of the abdominal wall is guaranteed.

It is significant that McBurney incisions practically never disrupt. When one considers that appendectomy is the most common

TABLE 2				
INCISIONS				
Upper Abdominal	Mid-Abdominal	Low Abdominal		
High right rectus	Mid-right rectus	Low mid-line	9	McBurney 0
High left rectus	Mid-left rectus	Low right rectus	2	
High mid-line				
Total	15-47%	Total	6-19%	
		Total	11-34%	

abdominal operation, this fact alone should recommend its more frequent employment, regardless of its disadvantages in some instances. Especially should it be used when the diagnosis of appendicitis is definite. Right rectus incision for appendectomy constitutes a good percentage of cases of disruption as reported in the literature. There were 6 such cases in this series (19%).

Table 3 shows the types of operations and the pathology present. It is interesting to note that 6 disruptions followed operations for perforated duodenal ulcer and 5 followed operations for stab or gunshot wounds of the abdomen. These cases suggest the relation-

TABLE 3		
OPERATIONS		
Upper Abdominal	Excision or closure of perforated duodenal ulcer	6
	Cholecystectomies	4
	Gastro-enterostomy for inoperable cancer of the stomach	2
	Repair of epigastric and umbilical hernia	1
	Repair of lacerated wound of the liver	1
	Repair stab wound of the transverse colon	1
	Total	15
Mid-Abdominal	Appendectomies	4
	Exploratory-lymphosarcoma of the small intestine	1
	Stab wound of the abdomen. Replace eviscerated omentum	1
	Total	6
Low Abdominal	Hysterectomies	5
	Gunshot wound with perforated transverse colon	1
	Ligation of tubes and appendectomy (mid-line)	1
	Acute intestinal obstruction—volvulus	1
	Gunshot wound with perforation of ileum	1
	Appendectomies (lower right rectus)	1
	Total	11

ship of low grade infection to wound disruption. Only five of these cases were drained. There were 3 cases of malignancy in this series—an incidence of 9.3%. Jenkins² review showed that 25% of disruption occurred in malignant cases.

Catgut was used for closure in all cases. Thirteen were closed with double chromic catgut No. 1 for the peritoneum and fascia. Eleven were closed with chromic No. 2. In 6 cases, plain catgut 1 or 2 was used for the peritoneum and chromic for the fascia. Silk-worm-gut tension sutures including the anterior fascia only were used in 21 cases. In 7 cases through and through silkworm-gut sutures including all layers were used. Black silk or skin clips were used for closure of the skin.

We are aware of the revival of interest in the use of silk and are familiar with its advantages over catgut in certain cases, particularly in thyroidectomies and hernias. The absence of tissue reaction to silk is a great advantage over catgut. It has been used with great satisfaction recently in McBurney incisions. However, it is not generally used in vertical abdominal wound closures. Glenn and Moore⁵ noted little difference in the incidence of disruption whether catgut or silk was used. They had

5. Glenn, Frank, and Moore, S. W.: The Problem of Abdominal Wounds: A Report of 22 Cases, Surg., Gynec. & Obst. 65: 16-22 (July) 1937.

7 disruptions following silk, 11 following catgut and 3 following the use of silver wire. Singleton and Blocker⁴ point out that suture material in excess of the minimum in size and amount is not conducive to good wound healing. The strength of the suture material need not be greater than the strength of the tissues sutured because the tissue will cut through, irrespective of the material used for suture if tension is greater than the tissue will bear.

Wolff and Priestley⁶ made observation on the absorption time of catgut in 164 surgical cases. They found that small sizes of catgut last as long or longer than larger sizes and that single strands last as long as double strands. They reported a great variation in the absorption time of catgut. They found that suppurating and draining wounds did not cause early absorption of catgut. They reported too that labels indicating the length of time necessary for absorption are entirely fallacious insofar as human beings are concerned.

I heartily agree with Singleton and Blocker's⁴ statement that there is a definite place in the practice of surgery for absorbable material which can be depended upon to maintain its tensile strength for at least 10 to 15 days.

The complete or almost complete absence of suture material in many wounds which have disrupted has caused allergy or increased sensitivity of tissues to catgut to be advanced as a cause for disruption.

Contamination was considered present in 11 of the cases (34%). It is generally believed that infection hastens disintegration of catgut. In only two of these cases, however, was there gross infection which could have caused disruption. Drains were used in 10 patients but they were not thought to be a serious causative factor. (For example,

TABLE 4
DAY OF DISRUPTION

Day	No. Patients	Percentage
5	2	7
6	2	7
7	9	30
8	10	30
9	1	3
10	3	10
	27	87
11th, 12th, 13th, and 17th day—1 each; 1 indefinite.		

6. Wolff, L. H., and Priestley, J. T.: The Absorption of Catgut in Human Beings: Preliminary Report, Proc. Staff Meet. Mayo Clin. March 8, 1939.

several drains were only small split tubes which are frequently used following gall-bladder surgery.)

Table 4 shows that the greatest number of disruptions occurred on the 7th and 8th days after operation. The earliest case was on the 5th day and the latest recorded was on the 17th day. As a rule the first sign of disruption is a profuse serosanguineous drainage from the wound.

More than half of the cases occurred during the winter months, suggesting the importance of respiratory infection with resulting cough as being a serious etiologic factor (table 5).

TABLE 5
SEASONAL INCIDENCE

Winter		Spring		Summer		Fall	
Dec.	3	Mar.	3	June	1	Sept.	1
Jan.	6	Apr.	0	July	2	Oct.	3
Feb.	9	May	0	Aug.	1	Nov.	3
Total 18(56%)		3(9%)		4(12%)		7(22%)	

Since the most important consideration in wound disruption is its cause, a detailed study was made of the hospital records in each case in an attempt to determine the major factor in the etiology of this catastrophe. Excessive intra-abdominal pressure, whether from coughing, vomiting, distention or undue activity of the patient, was found definitely to be the major factor in 29 of the 32 cases—90% (table 6). Infection

TABLE 6
CAUSE OF WOUND DISRUPTION
MAJOR AND MINOR ETIOLOGICAL FACTORS

A. Excessive Intra-Abdominal Pressure Major Factor in 29 of the 32 Cases			No. Cases	Per-centage
1. Excessive coughing			6	19
2. Excessive coughing, vomiting and distention			11	34
3. Excessive vomiting and distention			7	22
4. Getting out of the bed too soon			4	16
5. Straining on wound from nervous apprehension associated with cough			1	3
B. Infection: Major Factor In			2	6
Both patients had associated coughing and distention				

31*

Minor factor: Infection listed as minor factor in 10 of 32 cases; e.g., perforated duodenal ulcer and traumatic abdominal wounds. In none of these 10 cases was it considered a major factor.

*One case of inoperable cancer of the stomach. No associated infection or excessive strain noted on chart.

was listed as a major factor in 2 cases because gross infection was present. However, in both patients there was associated cough and distention to a degree apparently sufficient to cause disruption. Low grade in-

fection (not recognized clinically) was listed as a minor or contributing factor in 10 cases (perforated duodenal ulcer and traumatic intra-abdominal wounds). There was only one case, an inoperable carcinoma of the stomach, in which there was no record made of excessive strain or infection.

The use of the Wangenstein gastric suction has undoubtedly been a great factor in the prevention of wound disruption, by controlling vomiting and distention. It was used in several of these cases but it is questionable whether it was used early enough and continued long enough in many instances. A severe cough is the most difficult factor to control. It was a very significant factor in this series. Many of the cases were operated on as emergencies and already had respiratory infections. Bronchopneumonia was present in several patients.

It is also significant that 4 patients had gotten out of bed preceding disruption. It is in those patients who have a stormy convalescence that disruption can be anticipated. I have never seen a wound disrupt without some warning beforehand of the probability of its occurrence. It should be mentioned also that fear, nervous tension and apprehension play a definite part in causing added strain on postoperative wounds.

I do not believe excessive intra-abdominal pressure has received due consideration as a major factor in causing disruption. Glasser⁷ stated that evisceration was primarily the end result of increased intra-abdominal pressure while other factors generally enumerated are secondary. Milbert⁸ observed that too little study had been given to this factor. He stated that without the added factor of excessive intra-abdominal pressure many inherently weak wounds would escape disruption.

When one considers the strain exerted on some postoperative wounds it is surprising that the incidence is not greater than that recorded. It also seems probable that many incomplete disruptions are unrecognized and represent a good percentage of incisional hernia.

TREATMENT

Twenty-one cases (table 7) were treated by immediate secondary closure with 7 deaths, mortality 33%. Ten cases were treated by adhesive strapping only, with one death—mortality 10%. One patient received a delayed secondary closure 7 days after disruption and developed a fecal fistula. Death occurred three weeks later. There were 9 deaths in 32 cases, a mortality rate of 28%. Jenkins² reported a mortality rate of 35% in 1,294 cases reviewed, Fallis³ 34% in 49 cases, Glenn and Moore⁵ 45% in 22 cases and Singleton and Blocker¹ 31% in 61 cases of disruption.

TABLE 7
TREATMENT AND MORTALITY

Type Treatment	No. Cases	Deaths	Percentage
Immediate secondary closure	21	7	33
Strapping only	10	1	10
Delayed closure (7 days after disruption)	1	1	
	32 Total	9 Total	28 Mortality

Through and through double silkworm-gut sutures including all layers were used for secondary closures, silver wire being used occasionally. No attempt was made to close the wound in layers. In recent years sodium pentothal has largely supplanted spinal analgesia as our anesthetic of choice in secondary closures. It was used in 10 of these cases with great satisfaction.

Immediate secondary closure is the treatment generally advocated for wound disruption. It is my belief that the mortality rate can be lowered by a judicious use of adhesive straps in certain cases rather than a routine immediate secondary closure. It is quite significant that only one patient died in this group of 10 treated by strapping. The patient developed a violent psychosis following operation for perforated duodenal ulcer and got out of bed repeatedly in spite of restraints. Immediate secondary closure was considered inadvisable in this case.

Immediate secondary closure is indicated in those cases in which the condition of the patient would seem to permit such a procedure. However, many of those patients are in a critical condition and a secondary closure requiring an anesthetic becomes quite hazardous. It is true that a complete disruption with intestines protruding outside the abdomen necessitates a suturing of the wound but it seems inexcusable for a

7. Glasser, S. T.: Evisceration and Avulsion of Abdominal Wounds, *Am. J. Surg.* 31: 63-76, (April) 1936.

8. Milbert, A. H.: A Study of Disruption of Abdominal Wounds, *Arch. Surg.* 31-86: 104 (July) 1935.

disruption to reach that stage before being recognized. A close follow up of the patient and frequent inspection of those wounds subjected to strain should enable one to recognize the disruption before it is complete and to institute proper treatment. It is in the early incomplete disruptions that adhesive straps can be used to the best advantage. In many instances the omentum has already covered the viscera at the site of disruption and serves to prevent protrusion of the intestines. A drain should always be inserted beneath the straps. As the abdominal wall relaxes the straps can be tightened to keep the wound edges together.

A point in favor of conservative treatment by strapping in certain cases was well made in the article by Fallis.³ He strongly advocated immediate secondary closure and carried it out in 49 of the 50 cases reported. The mortality was 34%. In the one remaining case, conservative treatment by strapping was done because the patient was believed to be moribund. The patient recovered but had a large hernia. Ventral hernia is a frequent result of disruption regardless of the type of treatment used.

DISCUSSION

The most important feature of wound disruption is that of prevention. Once disruption occurs we have a serious problem which carries a high mortality rate regardless of the treatment used. It is true that the underlying condition of the patient greatly influences the prognosis in these cases, but I believe the effect of disruption and secondary closure is of even greater importance in determining the outcome. Of the nine fatalities in this report, death occurred within the first 24 hours in 4 and within 48 hours in 2 cases. It was believed the disruption was the primary cause of death.

A careful and thorough closure of the wound is absolutely essential. It should be remembered that disruption occurs from within outward. If the peritoneum and posterior fascia hold, disruption does not take place. Therefore, it would seem advisable not to use too quickly absorbable catgut for this layer. Chronic catgut seems preferable here to plain catgut. Avoid strangulation of tissues by too tightly applied sutures. Hematomas delay healing and invite infection so complete hemostasis is important. Tension sutures are recommended for use

when increased strain is anticipated. They may not prevent disruption, but will serve to hold the viscera in place if it should occur. Through and through tension sutures to include the peritoneum and posterior fascia are preferred. Tightly applied adhesive over the dressing serves to relieve tension. Abdominal binders should also be used for additional support. The Wangensteen gastric suction is most important in controlling vomiting and distention. It should be used before their development and should be continued for a sufficient length of time. Excessive coughing is the most serious cause of strain on the wound and is the most difficult to control.

Disruptions are apparently more prevalent in hospitals for the care of indigent patients. This is due, I believe, to the fact that these patients are often not in good general condition and are more prone to develop complications. Their nutritional level is frequently low accounting for a poor resistance against respiratory infections and other complications. The condition which causes them to come to the hospital is, as a rule, further advanced than usual. The fact that 20 of these patients were operated on as emergencies should serve to emphasize the importance of careful preoperative preparation of the patient when possible as a preventive measure against disruption.

Transverse incisions, as advocated by Singleton and Blocker,⁴ for the upper abdomen in preference to vertical incisions should receive serious consideration. We are in need of a more standardized method for the selection of catgut material.

SUMMARY AND CONCLUSIONS

1. Thirty-two cases of wound disruption were studied.

2. The incidence of disruption in 5,603 consecutive laparotomies at the Hillman Hospital in the last five years was .53%.

3. Upper abdominal wounds were found to disrupt more frequently than low abdominal wounds.

4. The greatest number of disruptions occurred in the winter months, suggesting the importance of respiratory infections and cough as an etiologic factor.

5. This study suggests that excessive intra-abdominal pressure, whether from cough, vomiting and distention, or undue activity of the patient, is the most important

cause for wound disruption. Faulty or too quickly absorbable suture material, infection, hematoma, allergy and poor healing power of the tissues are thought to be secondary factors.

6. Early recognition and treatment are most essential. Close observation of the wound will enable one to recognize disruption before it is complete and to institute proper treatment.

7. Conservative treatment by strapping in certain cases rather than a routine immediate secondary closure is recommended.

8. The mortality rate was 28%. (Following secondary closure 33% and following conservative treatment by strapping 10%.)

INTRA-OCULAR NEW GROWTHS*

By

EDWARD NICHOLAS DeWITT, M. D.
Bridgeport, Conn.

Intra-ocular tumors occur in nearly all stages of life. It usually is not difficult to diagnose the type before hand. The hardest task is to determine whether a tumor is present or not. In the very early stages no symptoms present themselves, but as the tumor advances symptoms are both subjective and objective.

The difficulties which one encounters in making a diagnosis are detachment of the retina, caused by a flat growth pushing the retina away, perhaps without pigment changes, or there may be a cataract present; the vitreous also may be cloudy and obstruct vision. The cornea may be scarred from old ulcers or injuries. Glaucoma may cause the cornea to be edematous which also interferes with accurate observation.

The tumors occurring in early life are usually gliomas of the retina, while those in later life are generally malignant melanomas or sarcomas of the choroid and malignant metastatic carcinomas.

In nearly every orbital tumor there is a tendency for the tumor cells to extend into other tissues by way of the emissaria, along the vessels or nerves, or where tissues show least resistance. This would tend to make the tumor grow along the nerve head and backward or laterally, and thus metastasize

to other organs. Yet not all tumors grow backward; some grow anteriorly and invade the lids and the surrounding tissues. Benign intra-ocular new growths are extremely rare. The great majority are malignant and arise in the uveal tract. Intra-ocular malignant growths go through four stages:

1. Quiescent stage.
2. Stage of glaucoma.
3. Stage of extra-ocular extension.
4. Stage of metastasis.

(1) Quiescent Stage: The growth commences at the outer layers of the choroid. At first the growth is lens-shaped and external to the membrane of Bruch.



Fig. 1. Shows a flat, lens-shaped growth marked A occurring at the outer margin of the nerve head. B indicates the retinal detachment.



Fig. 2. Shows a flat growth extending laterally. A indicates the tumor growth, B the choroid and C the retina.

*Read before the Association in annual session, Montgomery, April 19, 1939.

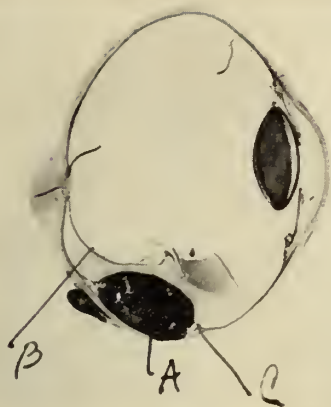


Fig. 3. Shows a loaf-like growth extending inward towards the center of the eye. A indicates the tumor mass. B indicates the detached retina, and C the choroid.

The membrane of Bruch offers some resistance and indeed determines the fact that the tumor grows at first more on the flat than in height. Eventually, however, the membrane is broken through, the growth extends through the hole thus produced and then forms a rounded mass which lifts up the retina from the membrane and assumes a typical mushroom or collar-button stud appearance; it then forms a base, neck and head. The head pushes the retina inward as well as the pigment layer. In its early stage its outer surface is the sclera and its inner surface is the lamina vitrea.

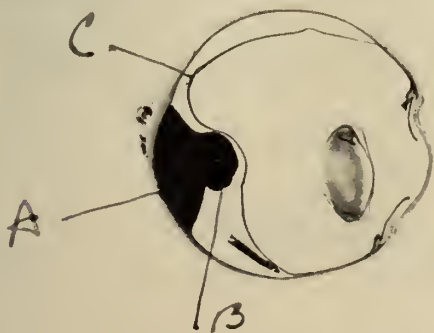


Fig. 4. Shows the collar-button type of growth, the head of which has broken through Bruch's membrane and extends toward the center of the globe. A shows the tumor mass. B indicates the head of the tumor. C indicates the detached retina being pushed inward.

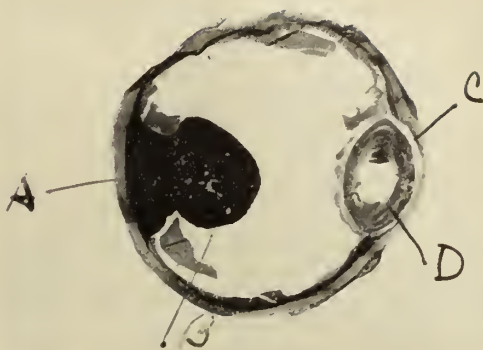


Fig. 5. Shows a further advanced mushroom or collar-button type of growth. The mass is small, yet marked glaucomatous symptoms may be detected. The head has grown much more rapidly than the body. Whenever Bruch's membrane has been placed under tension and broken, a very rapid inward growth follows. A indicates the tumor. B indicates the head of the tumor growth which is larger than the base. C—total anterior synechia. D—anterior subluxation of lens.

(2) Glaucomatous Stage: The onset of glaucoma is determined rather by the position of the tumor than by its size. Thus we may see large growths and no glaucoma, or small growths with it. It depends on the obstruction of the venous outflow from the eye. Thus if the venae vorticosae are compressed, an albuminous exudate is poured

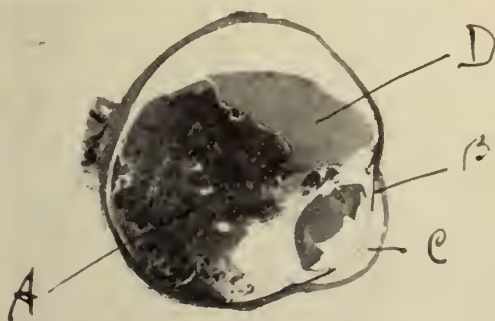


Fig. 6. Shows the second stage of intra-ocular growth; namely, the glaucomatous stage. The mass has practically filled the vitreous cavity; the lens dislocated anteriorly, the anterior chamber shallow, and the filtration angles occluded. The location of this tumor often accounts for glaucoma. A indicates the tumor growth. B indicates the iris with anterior peripheral synechia and enlarged pupil. C shows a shallow anterior chamber. D shows subretinal fluid pushing the lens and iris anteriorly and blocking off the filtration angle.

out between the choroid and the retina, resulting in an increase in intra-ocular pressure.

Not all tumors have a glaucomatous stage. With some sarcomas the eyes are sometimes soft. This softening occurs especially in the region of the equator or in the area of the emissaria. Here the globe has been opened by the outpouring of cells which reduces the tension rather than increasing it.

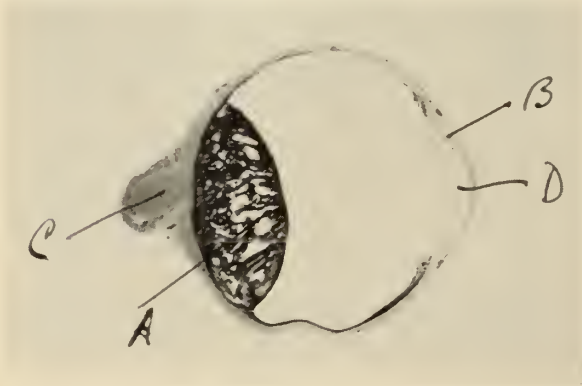


Fig. 7. Shows a tumor in the second stage. The tumor is located at the posterior pole of the eye, obstructing all vessels which emerge from the nerve head. The anterior chamber is extremely shallow. There is complete anterior peripheral synechia with the resultant enlarged and fixed pupil. A indicates the tumor. B indicates anterior peripheral synechia. C—the optic nerve. D—the dilated pupil.

(3) Stage of Extra-Ocular Extension: The sclera is perforated at one or more places and the growth invades the orbit.

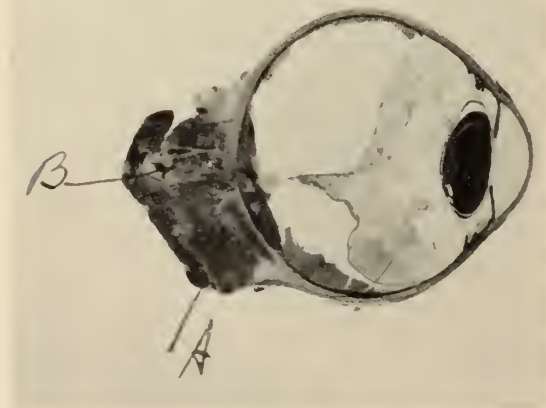


Fig. 8. Shows the third stage, which is the stage of extra-ocular extension. Here the tumor has extended through the circle of Zinn and along the nerve sheath. A indicates the tumor. B indicates the nerve and extra-ocular extension posteriorly.

Most usually the growth leaves the eye by the canals of the ciliary vessels and nerves; it may spread along the lamellae of the sclera, or may go along the optic nerve and its sheaths. Once it gets into the orbit it spreads rapidly. The eye becomes prominent and often displaced to one or the other side.

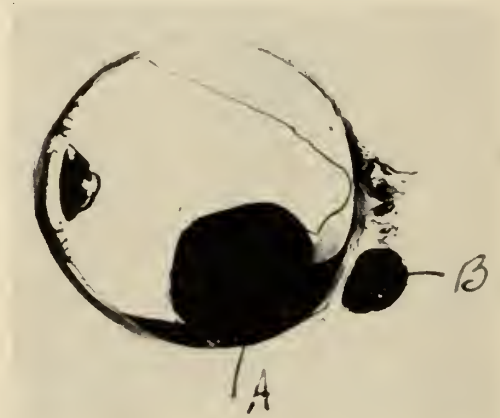


Fig. 9. Shows tumor extending through the emissaria and extending into Tenon's space. A indicates the tumor. B shows tumor extending outside the globe posteriorly.



Fig. 10. Shows tumor extending through the equatorial region. Here the sclera is very thin and frequently gives away in the region of the muscular insertion which is one of the weak spots in the sclera. There are also many small blood vessels in this region through which the tumor cells may pass. A shows the tumor. B shows the extra-ocular extension of the tumor equatorially.

(4) Stage of Metastasis: While the cell structure does not help us much in determining whether metastasis is liable to occur or not, growths at the posterior pole are perhaps more dangerous in this respect, for here the tumor cells may quite early get into the posterior ciliary vessels and thus be disseminated. The most common site for second-

daries is the liver, hence no examination of a sarcoma of the eyeball is complete without palpation of the right hypochondrium.



Fig. 11. Shows the fourth stage of intra-ocular new growth; namely, metastasis. This tumor was primary in the eye; eleven months later there was liver metastasis. The patient died of melanosarcoma of the liver. A shows nerve, B the cornea, C the sclera, D melanosarcoma in the orbit, and E melanosarcoma in orbital socket.

hepatic veins. It is probable that the growth cells pass through the pulmonary capillaries and thus reach the pulmonary veins whence they enter the systemic circulation. The

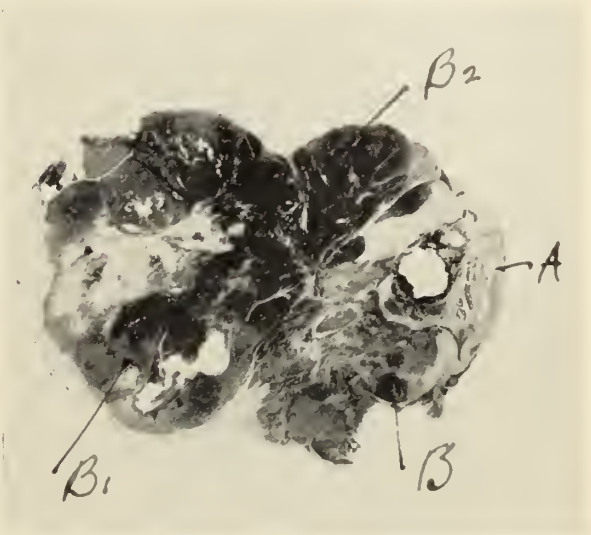


Fig. 13. Shows the tumor extending posteriorly. At autopsy, tumor cells were found in the brain, lungs and liver. A is the cornea, B intra-ocular tumor, B-1 extra-ocular tumor and B-2 extension into the nerve and brain.



Fig. 12. Shows metastasis in the cellular structure of the socket, as well as the extension backward into the brain. A shows cornea, B the lens, C the sclera, D the tumor, and D-1 extra-ocular extension.

The reason for this distribution is probably as follows: The growth cells get into the veins and thence to the right auricle; from here they pass into the right ventricle and on through the pulmonary artery. However, some get from the right auricle into the inferior vena cava and then grow into the



Fig. 14. Photograph shows an anterior extension of a sarcoma of the uveal tract of the right eye.

The optic nerve offers some resistance to the invasion of sarcoma of the choroid and even those growths which lie next to it will grow around the disc before invading it; or the reaction may be severe and spread outside the eye producing an orbital cellulitis and exophthalmos. It then finally ends in panophthalmitis.

The tumor will finally pass into the nerve head and then back to the lamina cribrosa. At first the septa between the nerve bundles are affected but later on the whole nerve is involved.

growth may also spread via the lymph stream. The pigment sometimes (more where metastases are present) gets into the urine as its colorless forerunner melanogen which changes into melanin on standing.



Fig. 15. Shows the same type of tumor as illustrated above, although much more advanced with secondary changes extending anteriorly. The tumor has destroyed the lids and the globe with secondary invasion of the entire right side of the face.

Histology: The growth is commonly spindle-celled with varying amount of pigment. More rarely small and large round-celled forms are found which as a rule contain less pigment. Sometimes both types of cells may be present in the same growth. The spindle cells resemble embryonic connective tissue. The nucleus is oval and well stained; the body (often made out with some difficulty) is fusiform and often with bifurcated ends. The cells are closely packed and often run in various directions and interlock. All stages are found between spindle cells and typical chromatophores. "Round cells" are called round because of the shape of the nuclei.

Pigment may be inter- or extra-cellular.

(a) Chromatophores are usually spindle or star-shaped with long processes. The pigment is in the form of rounded granules which lie in the processes and usually around the periphery of the cell. In strongly pigmented varieties (or in inflammatory conditions) the pigment cells are large and plump. The processes are shorter and thicker and the whole cell becomes rounder.

(b) Second type of pigment is derived from the blood (hematogenous pigmentation). It occurs in granules and clumps and is distributed along the vessels. When taken up by tumor cells it can be differentiated by the fact that it gives the iron reaction.

(c) Third type of pigment comes from the pigment epithelium. This source is of little importance; at times it may be differentiated by finding the rod-shaped pigment granules. Framework of the growth consists essentially of the capillary vessels. Here may form pseudo-septa which are often strongly pigmented. From the periphery of the growth preformed bands of collagenous and elastic tissue may pass into the tumor but tend to fade as we trace them inward.

Vessels: Sarcoma of the choroid is always very vascular and the arrangement of the vessels largely determines the structure of the growth. The vessels are simple endothelial tubes with very wide lumens. Blood channels without an endothelial lining are actually bathed by the blood. Hence hemorrhages are frequent and also the tumor can easily get into the vessel and thus produce metastasis.

Secondary changes: Necrosis is not infrequent, and is due to deficiency of blood supply; it may be patchy or the whole growth or even the whole eye may become necrotic. The cells undergo fatty degeneration and stain less and less successfully with hematoxylin. Around the necrotic portion a round-celled infiltration is often seen. Necrosis may be followed by iridocyclitis and may lead to atrophía bulbi.

SARCOMA OF THE CHOROID

Sarcoma of the choroid is the most common tumor of the uveal tract. It occurs as a rule between the ages of 40 and 70 but is quite rare in children. The growth is in practically all cases primary, single and unilateral, although a few cases have been described as secondary to a sarcoma occurring elsewhere. Sarcomas go through the same stages as any other intra-ocular tumor although the glaucomatous stage is less apt to occur. There is dilatation of the ciliary vessels which is often mistaken for episcleritis. The tumor often grows without giving rise to any symptoms excepting disturbance of images.

An infiltrating sarcoma is one which invades the whole of the choroid up to the scleral spur. There is a transudation of serum from the choroid which causes a detachment of the retina. These tumors show a greater tendency to the formation of glaucoma than any other type. Anterior to the tumor the retina undergoes cystic degeneration. Sarcomata are either pigmented

(melanosarcoma) or nonpigmented (leucosarcoma). Both types may be present in the same tumor.

SECONDARY CARCINOMA OF THE CHOROID

Secondary carcinoma of the choroid occurs almost invariably in the posterior part of the choroid. The left eye is affected more than the right on account of the more direct course from the aorta to the left carotid artery; also the temporal side is more commonly involved than the nasal because the posterior ciliary arteries are larger and more numerous on the outer side. Leber thinks that because of the fact that the macular area is especially richly supplied with small capillaries this has something to do with it. The primary tumor is in most cases in the breast or the lung, stomach, intestines, prostate, uterus or liver. Usually the eye is affected as a more or less terminal event when metastases are generalized.

Dr. A. B. Reese has seen a patient with metastatic carcinoma of both eyes when the primary focus had not yet been found. The growth is usually diffuse and flattened but thicker towards the side of the optic nerve. On section it usually strips and shows grey translucent areas and brown dots. It spreads like a flat sarcoma of the choroid along the lymphatics or planes of the choroid rather than ruptures the membrane of Bruch. There is generally a shallow but extensive detachment of the retina, a point of some

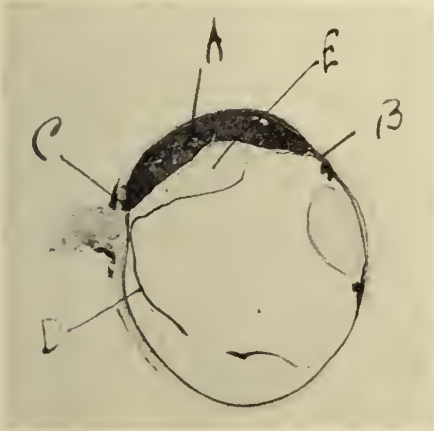


Fig. 16. Shows an infiltrating sarcoma beginning at the posterior scleral spur and extending up to the anterior scleral spur, invading the perichoroidal space. It is a flat growth and grows laterally rather than towards the center. A indicates the tumor, B the base of iris and ciliary body, C margin of nerve, D detachment of retina and E serum.

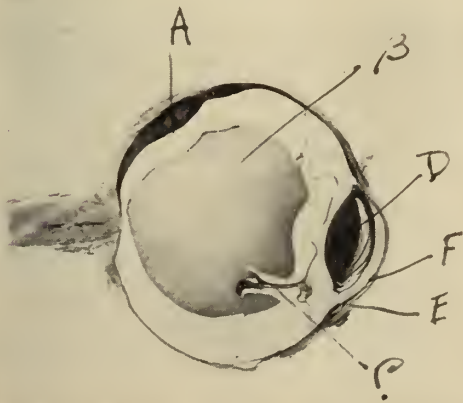


Fig. 17. Shows an infiltrating sarcoma similar in character to the specimen shown in Fig. 16, but showing the mass of serum causing a complete detachment of the retina and glaucoma. A indicates the tumor, B the serum, C detached retina, D anterior subluxation of lens, E blocking of filtrating angle and F anterior peripheral synechia with dilated pupil.

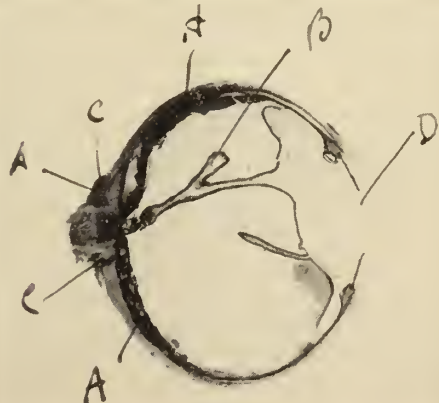


Fig. 18. Shows a secondary carcinoma of the choroid following a primary carcinoma of the breast. It can be seen along the circle of Zinn, the subdural and arachnoid spaces and through the nerve proper. It has caused a complete detachment of the retina except at its base and apex. A shows tumor, B the retina, C the circle of Zinn and D enlarged pupil.

diagnostic importance. Later, glaucoma and extra-ocular extension may ensue as in sarcoma of the choroid. These eyes are very apt to be called to our attention because of pain, and invariably glaucoma eventually sets in, necessitating the removal of the eye.

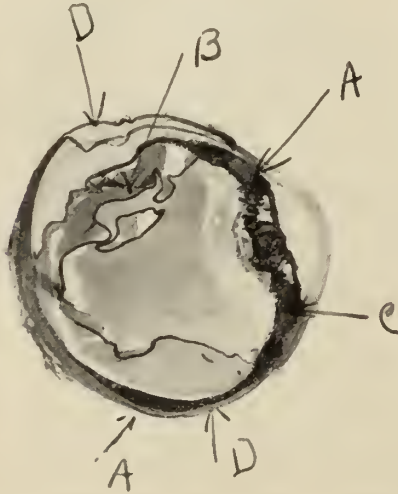


Fig. 19. Shows secondary carcinoma which appears to be more anterior than is usually seen. The tumor cells may have entered through the ciliary body, then into the iris and choroid. A indicates the tumor, B the retina, and C the ciliary body. D—equatorial diameter widened, causing the anterior chamber to be deeper, a common occurrence in glaucoma.

Histology: The tumor consists of alveoli of various sizes lined or filled by spheroidal polygonal or columnar cells depending on the type of the primary growth. The stroma between the alveoli consists usually of compressed choroidal tissue, but in scirrhous growths there may be a well marked fibrous tissue reaction. The chromatophores lose their processes and nuclei and appear as rolled up balls of pigment. Vessels are not numerous although hemorrhages are frequent.

Vacuolation of the cells and necrosis are also common. Round celled infiltration at the edge of the growth is a frequent occurrence.

GLIOMA

Retinoblastoma is the most important tumor of the retina. It originates from the internal nuclear layer. The inner layer usually remains intact. Large blood vessels are present and the growth forms around the vessels. The outer cells are necrotic and the inner are living. The necrotic material is

less toxic than the necrotic portion of a sarcoma. Glioma extends locally in contrast to sarcoma which metastasizes. The growth first involves the retina, then penetrates through the lamina cribrosa into the optic nerve, then by extension up to the chiasm and finally to the brain. However, it is possible for the growth to arise independently in the other eye even though no extension is seen in the first eye affected. The affection of the other eye will usually occur within three years; if no manifestation is noted after three years, the prognosis for that eye is good.

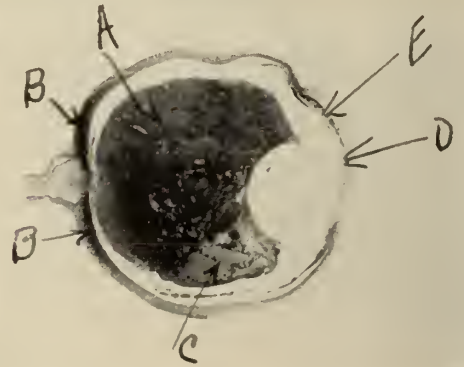


Fig. 20. Shows an advanced retinoblastoma occupying almost the entire vitreous space with some extension in the scleral tissue surrounding the nerve head. This tumor is in the second stage of growth. A indicates the tumor, B the extension, C the light areas denoting necrosis, D shallow anterior chamber and E anterior synechia.

It is sometimes very difficult to diagnose gliomas correctly. X-ray offers much help because calcium deposits appear in most every retinoblastoma. These deposits show in the x-ray and from this we can almost be sure of our diagnosis. Glioma of the retina is a very malignant tumor which affects infants in the first few years of life. In two-thirds of the cases it is seen before the end of the third year. It is probably always congenital but may not become manifest until the fifth year. There are the usual four stages of malignant intra-ocular new growths.

The quiescent stage: (a) The growth starts as a white nodule in the retina. When first seen it has, as a rule, a number of satellite growths around it.

(b) As the growth enlarges it may grow into the vitreous (glioma endophytum) or outwards detaching the retina (glioma ex-

ophytum). Essentially and pathologically there is no difference between those forms although one may be entirely in the vitreous and the other under the retina and seen as a simple detachment. In either case the vitreous cavity is gradually filled and the growth gives rise to a yellowish reflex

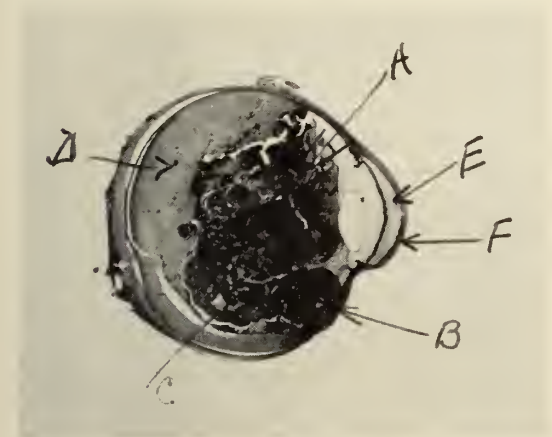


Fig. 21. Shows retinoblastoma extending anteriorly rather than posteriorly. A indicates the tumor. B—the dark areas indicate active growth. C—light area necrosis. D—serum. E—shallow anterior chamber. F—staphylomatous changes in the cornea.



Fig. 22. Shows a clinical photograph of a child suffering from a retinoblastoma of the left eye with external extension.

which, together with the dilated and fixed pupil which is often present, is responsible for the name “amaurotic cat’s eye.”

Stage of glaucoma: Increased tension sooner or later supervenes, and owing to the relative softness of the sclera the whole eye is enlarged. The lens becomes opaque and later exophthalmos occurs. Excruciating pain usually accompanies this stage.

Stages of extra-ocular extension: Unlike the condition in sarcoma of the choroid the optic nerve is affected early, or the growth may extend anteriorly producing marked exophthalmos with fixation.

Stage of metastasis: Actual metastasis is rare but the neighboring lymph glands are affected early.



Fig. 23. Shows an extremely advanced retinoblastoma with external extension.

Histology: A. Growth consists essentially of masses of small round cells with large nuclei and practically no protoplasm which resembles the internal nuclear layers of the retina.

B. Each mass is grouped around a vessel.

C. The cells at the periphery of each nodule; i.e., those farthest from the nourishing vessel, tend to degenerate. Thus a very characteristic picture is produced.

D. Areas of living cells staining dark blue with hematoxylin alternate with pale areas belonging to the degenerate cells which hardly take the stain at all.

E. Very characteristic, although not essentially a part of the growth, are the rosettes of Wintersteiner (first described by Flexner). Each rosette consists of a ring of

cells which represent the outer nuclear layer of the retina. Inside the ring is a faint line representing the external limiting membrane and inside are slight elongated elevations corresponding to rods and cones.

Rosettes may vary in number, few, many or absent. Giant cells are found occasionally.

PSEUDOGLIOMA

This condition must be distinguished from true glioma. Pseudoglioma is a metastatic chorioretinitis which is caused by an inflammatory exudate following an acute general infection. In pseudoglioma the eye ball is soft and the tension is minus, while in true glioma there is secondary glaucoma with marked tension and the eye is stony hard.

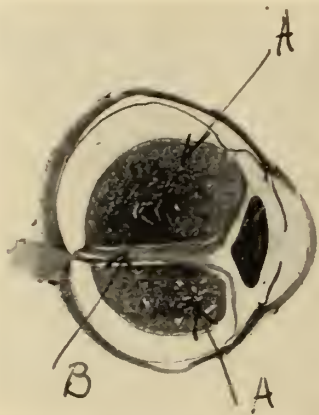


Fig. 24. Shows a pseudoglioma. This eye became blind and soft following pneumonia. It is a retinitis and choroiditis. A indicates mass of pus and B the retina and choroid.

HISTORY OF UROLOGY IN ALABAMA

By

J. ULLMAN REAVES, M. D.
Mobile, Alabama

The hills and mountains of North Alabama were covered with virgin forests and had natural drainage. The many springs and creeks afforded an abundance of pure water. This added to the comfort and health of the hardy pioneer. The early settlers landed at Mobile, and either stayed in this vicinity or penetrated the uplands by following the rivers which emptied in Mobile Bay. Others came overland from Georgia, Tennessee and the Carolinas. In 1765 the 21st British Regi-

ment was quartered in Mobile at old Fort Charlotte. They came from quarters situated where good natural drainage existed and with a mean temperature much lower than that of Mobile. It was summer when they arrived and the personnel immediately lowered their resistance by carousing with the "grog" of the day and more than half of them were stricken with a fever, and numbers of them died from it. We believe this to have been a malignant type of malarial fever. It upset the command so much that following this, so long as the British ruled, the soldiers spent the winters in Fort Charlotte which was located in the vicinity of what is now Church and Royal Streets, and went during the summers to what is now Montrose, on the eastern shore of Mobile Bay.

The square now occupied by the Cathedral of the Immaculate Conception in Mobile was a cemetery in Spanish times. No record of the average ages of those buried there is obtainable. The old Church Street Cemetery in Mobile was bought from the Kennedy heirs in 1818 and used as a cemetery until 1870. The average age of persons buried in this cemetery, as collected from the tombstones, is thirty-two. The Magnolia Cemetery in Mobile was opened in 1840, and the ages of those buried in the northeast section of the cemetery is quite young. Some of the lots so located have members of families buried more recently in them making it hard to derive an average as in the old Church Street Cemetery.

Mobile's early water supply was brought from nearby springs or shallow pumps within the city. In 1814 several of these shallow pumps were placed at different convenient points. Some of them had names. The one at the corner of Franklin and Dauphin Streets, adjacent to the cemetery used in Spanish times, was called the "skull pump." In 1820 the Mobile Aqueduct Company established the first water system within the city, using wooden conduits under the ground to carry the water in. In 1839 Steins' Reservoir was established, and took over the properties of the Mobile Aqueduct Company, replaced the wooden pipes with iron ones and further improved the water supply. In 1889 the Bienville Water Works was established and the purification of the water supply was still further improved.

In 1839 the population of Mobile was around 12,000. A yellow fever epidemic vis-

ited the city and it was estimated that one out of every twenty-five persons succumbed. The increase in the number of orphans crowded the existing Catholic Orphanage and a group of Mobile's fine women created at that time another orphans' home to take care of the helpless children. This orphanage still exists as the Protestant Orphan's Home at 911 Dauphin Street.

In 1847 there was a great drouth, the rivers in the uplands were almost dry. All of the surface water pumps in Mobile failed and water was obtained by the populace from a spring at what is now Marmotte and Poe Streets.

With conditions such as these, and meager practice of sanitation, if at all, the pioneer had to be rugged in order to survive. There was access to very few medical men who had any real training. Some of the population relied upon the herbs used by the medicine men of the Indian tribes, and this man was crossed in some parts of our State by the voodooism brought into our boundary by the slaves. With the removal of the Indians in 1836, the practice of the healing art was left to those who were more studious, and these were augmented by an influx of men who had sound training in anatomy and its associated medical arts.

Among those attracted to Alabama was Dr. James Marion Sims, who came in October 1835 and located at Mount Meigs, situated in Montgomery County about twelve miles east of the City of Montgomery. Dr. Sims' first written contribution to surgery was the report of a harelip operation in the latter part of 1844 on a patient from Lowndes County.

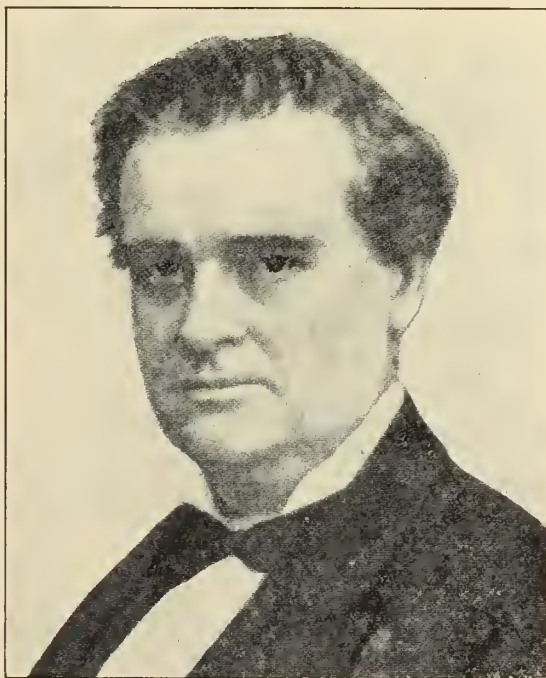
Sims said: "The year 1845 was a memorable era in my life. It seems to me a turning point in my career. Up to the time that I went to Mount Meigs I was willing to turn aside to do anything excepting to practice medicine. When I went to Montgomery I gave away my dog and sold my gun. I devoted myself to my profession, determined to do my best in it. I had an ambition for surgery—general surgery—and performed all sorts of beautiful and brilliant operations."

In April 1845, he studied a case of trismus nascentium of which he said, "My doctrine in respect to the pathology and treatment of trismus nascentium has not been adopted or accepted by the profession at large; but I am

satisfied that they are true." Referring further to these, he said, "I consider this my first great discovery in medicine." His next occurred only two months later.

He had now been a doctor about ten years and was well established as a surgeon and family doctor. "I had nothing whatever to do with midwifery excepting when called in consultation with Dr. McWhorter and Dr. Henry. If there was anything I hated it was investigating the organs of the female pelvis."

Just at this time, June 1845, Dr. Sims was requested by Dr. Henry to see a young Negress owned by Mr. Westcott who had



J. MARION SIMS, M. D.

been in labor 72 hours. Without any great effort the child was brought away with forceps. An enormous slough took place, leaving a large opening connecting the bladder and vagina. After investigating the literature of the subject thoroughly and fully, Dr. Sims said to Mr. Westcott, "Anarcha has an affection which unfits her for the duties required of a servant. She will not die but never get well and all you have to do is take good care of her so long as she lives." In one month from that time a Negro girl named Betsy was brought to see Dr. Sims from Lowndes County with vesicovaginal fistula. After examination, Dr. Sims said, "I am very

sorry, doctor. Nothing can be done for her. There is a similar case here in town."

About another month after this, however, Mr. Tom Zimmerman of Macon County called on Dr. Sims regarding a young Negress. Dr. Sims recognized the condition as vesico-vaginal fistula from the description given him and declared it would do no good to send the patient to him as she was in an incurable condition. However, Zimmerman did send her. An examination by Dr. Sims confirmed his opinion, and he arranged to send the woman (Lucy) back home the next afternoon. On the following morning Dr. Sims was called to see a Mrs. Merrill who had been thrown from a horse and was suffering intensely with pain in the pelvis. On digital examination, with patient in the knee-chest position, he found the womb extremely low and retrodislocated, but in moving his fingers in the vagina there was a sudden dilatation of the vagina and a return of the womb to its normal position. On return of the patient to normal horizontal position there was an explosive sound as though much gas was escaping from the bowel. It then dawned on Sims that the manipulation of his fingers during the examination had permitted the intrushing air—15 pounds to the square inch—to dilate the vagina and force the womb to its normal position. Inspired with the thought that he could use this newly acquired knowledge in exposing to view the opening of a vesico-vaginal fistula, he secured a pewter spoon and with the assistance of two students in his office repaired to his little hospital of 8 beds for Negroes and put the patient, Lucy, who was scheduled to return home as an incurable in the afternoon, in the knee-chest position, with a student on each side to hold the nates apart. As they did this the air rushed into the vagina and "introducing the bent handle of a spoon I saw everything as no man had ever seen before. The fistula was as plain as the nose on a man's face. I said at once, Why can't these things be cured? I felt sure I was on the eve of one of the greatest discoveries of the day. The more I thought of it the more I was convinced of it. I immediately went to work to invent instruments necessary for performing the operation on the principle that was self-evident on the first inspection of the first case. The speculum or retractor was perfectly clear from the beginning." Dr. Sims did not send Lucy home. "I saw Mr.

Westcott and told him I was on the eve of a great discovery, and I would like for him to send Anarcha back to my hospital. I also wrote Dr. Harris (of Lowndes County) saying that I had changed my mind in regard to Betsy and for him to send her back again. I ransacked the country for cases which resulted in finding 6 or 7. I was very enthusiastic and expected to cure every one in six months. I never dreamed of failure and could see how accurately and how nicely the operation could be performed. It took me about three months to have my instruments made, to gather patients in and to have everything ready to commence the season of philosophical experiment. The first patient I operated on was Lucy. This was December 1845. That was before the days of anesthesia. It took about one hour to complete the operation. About a dozen doctors were present." His investigation of the literature on draining bladders caused him not to use a self-retaining catheter. "I will put a little piece of sponge in the neck of the bladder running a silk string through it as an anchor. This will act as a capillary tube, the urine will be turned and the fistula cured." At the end of five days the patient was very ill. Dr. Sims had difficulty in removing the sponge which projected half an inch in the bladder. The urethra and bladder were very much inflamed and he thought Lucy would die. After her recovery, he found on examination two small openings in the line of union, instead of one large opening in the bladder. He soon afterwards operated on Betsy, using a self-retaining catheter instead of a sponge to drain the bladder. She had no chills or fever either, or violent or sudden disturbance such as attended the previous operation. At the end of the 7th day the sutures were removed. "To my great astonishment and disappointment the operation was a failure. I thought I could make some improvement in the operation and Anarcha was the next case."

"Besides these three cases I got three or four more to experiment on and there was never a time that I could not at any day have had a subject for operation. But my operations all failed so far as a positive cure was concerned. This went on not for one year but for two or three and even four years. I kept all these Negroes at my own expense all the time. As a matter of course this was

an enormous tax for a young doctor in country practice."

Sims then says: "At the beginning my doctor friends were all interested and willing to help me but after two or three years' failure my friends tired and it was difficult to get any doctor to help." He finally had to have the patients themselves assist him in his operations.

"So I went on working without any progress or at least permanent result, till my brother-in-law, Dr. Rush Jones, came to see me one day saying, he had come to have a serious talk with me."

Then and there he proceeded to protest against Dr Sims' continuing the work, claiming he was undermining his health and bearing an unwarranted expense—all of which was unfair to his family. "You have no idea what it costs you to support a half dozen Negroes now more than three years and my advice to you is to resign the whole subject and give it up." Dr. Sims, very much surprised at what his brother-in-law said, replied, "My dear brother, if I live, I am bound to succeed. . . I have done too much already and I am too near the accomplishment of the work to give it up now. I am going on with this series of experiments to the end. It matters not what it costs, if it cost me my life."

The experiments were continued at least a year after this conversation with Dr. Jones. Dr. Sims went on improving the method of operating, eliminating first one thing then another until he had got it down to a very simple practice. Then he said "I am not going to perform another operation until I discover some method of tying sutures high up in the body where I can not reach" Three weeks had elapsed without performing a single operation on any one of the half dozen patients that were in his hospital. "I had been lying awake for an hour wondering how to tie the suture when all at once an idea occurred to me to run a shot on the suture and when it was drawn tight to compress it with a pair of forceps which would make the knot perfectly secure." It was three o'clock in the morning but his enthusiasm was so great he could not help waking up his kind and sympathetic wife and telling her of the simple and beautiful method he had worked out to successfully tie his sutures.

The next day in due time the operation was performed on Lucy. When it was done Dr. Sims asked, "Could anything be more

beautiful? Now I know that she will be cured very soon and then all the rest must be cured." A week later upon examination he found that his operative procedure was a complete failure.

"I then said to myself there must be some cause for this. I have improved the operation till the mechanism seems to be as perfect as possible and yet they fail. I wonder if it is the kind of suture that is used. Can I get some substitute for silk thread? Meltor of Virginia had used lead and I had used a leaden suture and failed." (I am sure Sims meant Matteur instead of Meltor. Dr. Matteur of Virginia, a wonderfully capable, successful and most eccentric man is reputed to have antedated Dr. Sims in successfully operating upon vesico-vaginal fistula.) "Just in this time of tribulation about the subject I was walking from my house to the office and picked up a little bit of brass wire in the yard. It was very fine. I took it around to Mr. Swan, who was then my jeweler, and asked him if he could make me a little silver wire about the size of the piece of brass wire. He made it all of pure silver." Anarcha was next operated on and was the subject of this experiment. "The edges of the wound were nicely denuded and neatly brought together with four of these fine silver wires. They were passed through little strips of lead—one on each side of the fistula. The sutures were tightened and then secured or fastened by perforated shot run on the wire and pressed with forceps. This was the thirtieth operation performed on Anarcha. In all the preceding operations where silk was used for a suture at the base of the bladder cystitis always resulted. The urethra was swollen continually and the urine loaded with thick ropy mucus. With use of silver suture there was a complete change in this condition. On examination at the end of the week no inflammation was present and the union was perfect."

This, his first success, was in May or June 1849. "In the course of two weeks Lucy and Betsy were both cured by the same means without any sort of disturbance or discomfort. Then I realized the fact that at last my efforts had been blessed with success, and that I had made perhaps one of the most important discoveries of the age for the relief of suffering humanity."

The medical arts improved wonderfully throughout the State as those engaged in the

practice thereof applied themselves diligently, and special notice of the urine and its abnormal constituents claimed attention during the 1850's. This era was just prior to the dark days of 1861-1865 when the War Between the States forced the military aspects of medicine and surgery ahead of those which attended the women and children back home. During this period the following request appeared in the Selma Sentinel, October 1, 1863:

The ladies of Selma are respectfully requested to preserve all chamber lye collected about their premises, for the purpose of making nitre. Wagons with barrels will be sent around for it by the subscriber.

(Signed) Jon Haraldson,
Agent Nitre & Mining Bureau.

Col. Jon Haraldson was the Confederate agent of the Nitre & Mining Bureau. The scarcity of nitre with which to make gunpowder was so serious as to prompt the above request through the press. As most of the men were fighting at the front, the women were asked to cooperate in this matter, and needless to say they responded with a sense of duty and patriotism which the fair women of Alabama always display in an hour of need.

Following the close of the war, Dr. J. T. Gilmore, of Mobile became very much interested in calculosis. The following letter received by him shows the ingenuity of our rugged pioneers during the time immediately following the removal of the Indians:

DeKalb, Miss., October 16, 1872.

Dr. J. T. Gilmore,
Mobile, Ala.

Dear Doctor:

My friend Dr. Campbell, of this county, says that on his recent visit to Mobile you expressed a desire that I should send you the particulars of an operation for stone in the bladder that occurred in this neighborhood years ago. The facts and circumstances are these: An old man named Buck Craig, aged about sixty years, lived in this county in the year 1840. He had some trouble with his urinary organs—slight stricture of the urethra, perhaps—and being a sort of steam doctor, and having read some, he dipped a straw in wax, making a rude catheter, which he introduced into the bladder, and on withdrawing it left part of the wax in the bladder, which became the nucleus for a calculus. In the course of a few months it became so large as to give him great pain, and he determined to operate for it. Under his direction, his wife, with a common case knife, ground into the form of a scalpel, cut into the urethra in the perineum, and successfully extracted the stone, which must have weighed

at least two ounces. I saw the stone myself lying on the head of a flour barrel. It seems that there were no persons present except his own family. They all said at the time that their mother did it, and Craig also averred that she did it. No surgeon ever claimed the credit of it, and it was done. My father-in-law, Mr. Hughes, lived within a mile of him, and saw him every day until he recovered and moved off.

Mr. Murdoc McRae, W. C. Rush, and several other old citizens, now living in this neighborhood, told me last Sunday, after receiving your message by Dr. Campbell, that they saw him frequently after the operation. I was a lad of fifteen in those days, but I distinctly recollect seeing the stone and hearing the matter discussed by his neighbors, and it was generally conceded by everybody that his wife did it. They were very poor people, and could not have paid a surgeon to come from a distance to do it. There were three physicians living here then, one of whom (Dr. McLanahan) is still here, and none of them ever claimed the credit of it. Nor did any one else, except his wife. These are the facts, and there is no doubt in my mind but that his wife performed the operation with nothing but a case knife. I am, Doctor,

Respectfully,
(Signed) E. Fox.

As the span of life lengthened, we find an alert profession paying close attention to urologic symptoms. During the closing part of the nineteenth century, following the close of the War Between the States, the transactions of The Medical Association of the State of Alabama contained classical articles by some of Alabama's outstanding doctors. Some of these were so noteworthy that mention must be made of them.

James Guild, M. D., of Tuscaloosa reported in 1875 a case of lithotomy in a little boy which was the first departure from the lateral perineal operation of lithotomy. To quote:

"After using all diligence for three hours, with the aid of anesthetics, I was defeated in my purpose, and had come to the conclusion to give up the case; but knowing the little fellow would soon fall a victim to the malady, I made an incision, mostly in the median line, into the groove of the staff, the extremity of which being in contact with the prostate gland. I then introduced a small pocket case director into the groove of the staff, then withdrawing it, readily entered the bladder, and with a sharp pointed bistoury made quite a slight opening partly through the neck of the bladder; by patient dilatation with the finger entered the bladder without difficulty, making room sufficiently large to admit the forceps, and extracting a stone of ordinary size. Recovery took place without any untoward symptoms."

Later, at the 1887 meeting, Dr. Guild presented a calculus taken from the body of a

young woman which weighed two and a half ounces. Dysuria was first noticed by the girl's parents when she was in her thirteenth year, and she suffered untold agonies until death released her in her eighteenth year. She was dying when Dr. Guild saw her. He closed his report of the case by stating that we would have to bequeath to posterity the sad record that a human being was permitted to die, from such a cause, in sight of succor.

At the thirty-second session of the Association held in Selma in April 1879, Dr. W. D. Bizzell of Mobile gave a paper entitled "Recent Advances in Our Knowledge of Kidney Diseases." In this article he stated: "It would be incorrect and as absurd to place all the diseases of the kidney characterized by albuminuria under one name and regard them all as varying stages of one progress, as thus to class pneumonia and tuberculosis." Dr. Bizzell stated further: "Whether as a transitory symptom, or as a more or less marked symptom of the diffuse diseases of the kidneys with which the name Bright has been associated, albuminuria is indicative of disturbance in the circulation of the secreting portion of the kidney." Dr. Bizzell had a thorough knowledge of the pathologic elements found in urine of diseased kidneys and was of the opinion that the greater the number of large tube casts, other things being equal, the graver the prognosis.

Dr. Luther Leonidas Hill reported three cases of undescended testicle before the Association in 1889. One of the cases was a child, aged six, who also suffered with epilepsy, diagnosed reflex epilepsy by Dr. Hill and so proven by operation as all epileptiform seizures ceased after the testicle was brought down into the scrotum and anchored.

Dr. Edward Watts Morris of Birmingham presented a paper entitled "Treatment of Organic Stricture of the Urethra" before the Association in 1890. In this paper he stated that the then method of treating strictures were dilatation, simple and rapid; cutting, internal and external urethrotomy, and electrolysis. He also stated that Dr. Hogan of this State in a paper read before the Southern Surgical and Gynecological Society in 1888 reported five cases which he had successfully cured with electrolysis despite the fact that some of the big men of that day had experienced most dismal fail-

ures by the method. Dr. Morris used the Otis urethrotome for strictures of the anterior urethra and external urethrotomy for strictures at the bulb and in the posterior urethra. He also stated that the strictures were much less frequent in the Negro than in the white man and that this was certainly not due to the fact that they were exempt from gonorrhea.

In November 1894, Dr. W. R. Jackson did his first suprapubic cystotomy for stone on a child eight years of age at the City Hospital in Mobile. He was assisted by Dr. Samuel A. Gordon, who was then interning at the City Hospital. Dr. T. S. Scales was in the operating room during the operation and gave Dr. Jackson advice as to the steps of the operative procedure.

Henry Altamont Moody, M. D., of Bailey Springs read a paper before the Association in 1894 entitled "The Extent of the Diseases Affecting the Kidneys of People in Alabama." In his monograph he stated that he addressed a circular letter of inquiry to every physician in the State. He received replies from only 100 physicians from 70 different localities scattered all over the State. Forty reported no cases. Twenty stated that they had not had a single case of kidney disease during the twelve months ending March 1st, 1893. "One gentleman writing from a recently built town says that kidney troubles were exceedingly rare there, and attributed the fact to the circumstance that there were none but young people in the neighborhood." From two different parts of the State he received this reply: "Our people drink no whiskey, use no ice, and have no kidney troubles." On the other hand one report came of an examination of 75 people, not all of them invalids, with the result of finding albumin and casts in one-third of all those examined. In this survey the Alabama Insane Hospital reported 700 cases of kidney trouble of which only five per cent had been recognized before admission. Dr. Moody deducted from his survey that in 1890 one person of every 303 in the State suffered from kidney disease. This survey also brought out that Negro children between the ages of four and eight were subject to albuminuria. This being so pronounced in Wilcox county that it was known as "the little nigger disease." In this malady the first symptom noticed was apathy and a craving for warmth. All desire for play was lost, and

they sat stupidly in the sunshine all day long. In some cases the feet, legs and face would swell up, and anasarca would develop. The appetite was poor and the urine scanty and loaded with albumin. No pain was complained of and in some cases these little fellows just faded out of life.

To my mind this is a description of hookworm disease. These little fellows were raised up in the white folks' yard and deposited their excreta under the rose bushes or down at the barn. This, together with the fact that they never had shoes, added to their frequent infections with "ground itch."

Luther Leonidas Hill of Montgomery presented a paper before the Association in 1897 entitled "Stone in the Bladder" in which he reported ten cases, nine males and one female. All of the stones which were removed at operation were done by the lateral operation. Dr. Hill stated, however, that he would remove some of these suprapubically if he were operating at the time he was presenting his paper. The female was 65 years of age, and the calculus removed by making an incision from the vagina to the bladder. Recovery uneventful. The males were from three to sixty-five years of age. The calculi weighed from 36 grains to 1790 grains. One weighed 225 grains and had a lead nucleus 3 inches in length which weighed 275 grains. This case was operated on in 1887. The patient was an ex-Confederate soldier, and claimed to have been shot by a bushwhacker in 1863 while reclining on his horse, and he identified the projectile as being similar to the ones the bushwhackers used. There was a scar about an inch above the anus and a little to the left of the raphe of the perineum. This case is especially interesting, for of the 408,072 casualties of the War Between the States suffered by the Union Army, we are told that there was not a single instance of a puncture, incised or lacerated wound of the bladder.

"Nephrolithiasis, renal calculus, or kidney colic may be defined as the formation of a concrete substance in the kidney or its pelvis, due to the deposition of certain solid constituents of the urine," according to Dr. John James Hunter, of Montgomery, in a paper entitled "Renal Calculus" which he presented before the Association in 1897. He was well informed as to the chemical composition of urinary lithiasis, and stated that "the youthful patient belongs, usually, to the

poorer classes, and the older patient to the richer class." This is a generalized statement which can be classed as a forerunner of our vitamin theory of urinary lithiasis today. Speaking of the pain caused in some cases by the descent of the calculus down the ureter, Dr. Hunter said: "Men have committed suicide to end it, and women have aborted because of it."

In the latter years of this period, surgery of the prostate gland was brought before the Association by Dr. Chas. M. Franklin, of Union Springs, Dr. W. R. Jackson, of Mobile, Dr. J. H. Blue, of Montgomery, Dr. J. M. Mason, of Birmingham, and others. None of these gentlemen reported a series of cases but each treatise was always up to the standards in vogue in the large medical centers of the day.

A new branch was added to the course of study in the Medical College of Alabama for the session of 1884-86; namely, that of "Hygiene, Medical Jurisprudence and Genito-Urinary Surgery." Dr. T. S. Scales of Mobile was selected to fill the chair, and he held the position through the session of 1891-92. Dr. Scales was appointed Professor of Surgery in 1892 and in 1893 his title was changed to Professor of Surgery and Director of the Laboratory of Operative Surgery. Dr. Scales held the last title through the session 1901-02. Apparently Dr. Scales included genito-urinary surgery in his course since the title was not listed in the catalogue of the Medical College of Alabama for the session 1892-93 through the session 1901-02. The catalogue for the session 1885-86 carried a description of the college dispensary, for the treatment of indigent poor of the city, and set forth that it would furnish a large number of all classes of medical, surgical and special cases, for the clinics held in the college lecture room. "These will be used by the several lecturers on Clinical Medicine, Surgery, Diseases of Women and Children, Genito-Urinary Diseases. . ." The catalogues continued to carry a similar statement up to and including the one for 1911-12.

Dr. W. R. Jackson was appointed Professor of Principles and Practice of Surgery and Genito-Urinary Diseases for the session 1902-03, and remained on the faculty in that capacity through the session 1910-11. In 1911, he was named Professor of Surgery and con-

tinued in that capacity until the Medical College of Alabama was closed in 1920.

Beginning with the session 1910-11, the catalogue of the School of Medicine, University of Alabama, lists the clinical staff of the University Dispensary, and under the head-



JOHN OSGOOD RUSH, M. D.

ing, *Genito-Urinary Diseases*, the names of two doctors appear: Doctor John Osgood Rush and Dr. P. D. McGehee. Their names appear along with that of Dr. W. R. Jackson as giving the course in genito-urinary diseases for the year 1910-11. In 1911, Dr. Rush was appointed lecturer on genito-urinary diseases and the next year he was appointed Associate Professor of Genito-Urinary Diseases. Dr. Rush was appointed Associate Professor of Genito-Urinary Surgery in 1914 and became Professor of the same subject in 1915. He continued in that capacity until the school was closed with the session 1919-20. Dr. John O. Rush was born in Summerfield, Alabama, June 17, 1878. After graduating (B. Sc.) at the Alabama Polytechnic Institute at Auburn in 1899, he entered the University of Alabama Medical School at Mobile where he received the degree of Ph. G. in 1902, and the degree of M. D. in 1904. He spent some years in internship, quarantine service with the U. S. P. H. & M. H. S. and in general practice before he was made instructor in genito-urinary diseases by his

alma mater. The LL.D. degree (honorary) was conferred upon Dr. Rush by Springhill College in 1915; and he served as a Captain, Medical Corps, United States Army, during the World War. Dr. Rush had the following assistants in his department:

Dr. William Alexander Padgett, 1911-12; 1913-14.

Dr. Emilio E. Escalante, 1913-15.

Dr. Richard G. Rush, 1915-16.

Dr. Clarence E. Farish, 1918-19.

Dr. William H. Oates, 1919-20.

Dr. John O. Rush continued the practice of urology in Mobile until his death, February 6, 1933. He contributed much to the profession and the specialty of urology in Alabama. His friends were legion in all walks of life, and in his passing the medical profession suffered the loss of a most able urologic consultant.

The fifth annual announcement of the Birmingham Medical College, 1898, stated that, "A three year's graded course of six months each will be required for graduation." Genito-urinary surgery was listed among the special subjects that were given without extra cost. Dr. Mack Rogers had the title of Assistant to the Chair of Anatomy and Clinical Surgery, and Lecturer on Genito-Urinary Surgery and Venereal Diseases. Under the heading *Curriculum*, for the third year, we find the following statement: "Dermatology and Genito-Urinary Surgery. One lecture, and one clinic each week."

The seventh annual announcement (1900) of the College, contained the following statement: "The Faculty desires to announce that in conformity with the rules of the Southern Medical College Association, the four-year course will be required of all students matriculating for the first course on or after January 1st, 1899." Dr. Dyer F. Talley had the title of Lecturer on Genito-Urinary Surgery. The outline of the curriculum for the fourth year contained the following statement: "Genito-Urinary, Rectal and Venereal Diseases, lectures or clinics once a week throughout the session."

Dr. Talley, as Associate in Surgery to Dr. J. D. S. Davis, taught genito-urinary surgery and did practically all of the urologic surgery. Dr. Arthur Folkerson Toole became connected with the Birmingham Medical College in 1908, and was Professor of Genito-Urinary Diseases up to 1915, when

he resigned on account of ill health. Dr. Toole was born in Talladega, April 26, 1877, and after graduating from Washington and Lee University he studied medicine at the University of Virginia, graduating in 1900. After spending some years in internship and hospital work in New York City, he located in Birmingham in 1906. In quest of health

than the operator, who may be eternally confounded by the error of an assistant."

Beginning with the dawn of the twentieth century, several men who were well trained located in the different sections of the State and limited themselves to the practice of urology. As time advanced this number grew until today a well-trained urologist is in easy access to any citizen of the State. These men have demonstrated their ability to do the highest type of urologic surgery. Some of them have contributed a small part to the urologic aggregate which has reduced the necessity for surgery. The larger hospitals maintain well equipped urologic departments with competent urologists on their staffs. In 1931 the Ashbel Hubbard Urological Department was established at the Mobile Infirmary, by Debe W. Hubbard, his wife, and Stella H. Wilson, his daughter, as a memorial.

Some of the urologists now practicing in Alabama were raised in other states and became Alabamians by choice. On the other hand, Alabama has contributed to states beyond her borders such urologists as Edgar Burns of New Orleans; W. A. Clark of Houston; Milton M. Coplan of Miami; H. Dawson Furniss of New York; George G. Garrett of Shreveport; James B. Hicks of Boston; T. Leon Howard of Denver, President-Elect of the American Urological Association; Cassius L. Peacock of New Orleans; Jefferson C. Pennington of Nashville; and E. Clay Shaw of Miami.

I wish to acknowledge the kind and wholehearted assistance given me by my friends in the preparation of this monograph. Their help made of this work a pleasant task. The historical data on early Mobile were obtained from Mr. John Glenon and *Colonial Mobile* by Peter J. Hamilton. Those on the work of Dr. Sims were furnished by Dr. R. S. Hill of Montgomery. Dr. Seale Harris of Birmingham assisted with dates and his monograph, James Marion Sims—The Father of Modern Gynecology (*The Southern Surgeon*, February 1937, pp. 35-52). Dr. Samuel A. Gordon of Marion furnished the data of Dr. W. R. Jackson's first suprapubic cystotomy for stone; and those about the bladder wounds in the Union Army were obtained from Dean Lewis' *Surgery* (Vol. VIII, Urology, Chapter XIII, page 1, Roger Colgate Graves, M.D.) Dr. Douglas L. Cannon of Montgom-



ARTHUR F. TOOLE, M. D.

Dr. Toole located in Asheville, N. C., where he resumed the practice of urology as soon as his health permitted. On November 4, 1929, after a courageous battle with disease, the sad news of his death, though long expected, came with poignancy and the deepest regret to all who knew or had been associated with him.

Dr. Walter F. Scott became associated with Dr. Toole in Birmingham during 1912, and assisted in carrying on the weekly lectures in urology and the work in the dispensary of one to three hours daily, except Sunday.

The advent and perfection of the cystoscope, together with the x-ray, so opened the door for urologic progress that all attempts to subjugate it to general surgery only proved, according to Cabot, that "the best results will fall to the surgeon who supervises from beginning to end the investigation and applies the remedy, rather

ery furnished a list of all articles on urologic subjects which had appeared in the transactions of The Medical Association of the State of Alabama, and was kind enough to assist in having photostatic copies made of the ones I desired. Dr. Emmett B. Carmichael of the University catalogued the information concerning the teachings in the School of Medicine of the University of Alabama and the Birmingham Medical College. Dr. R. P. Lester and Mrs. John O. Rush of Mobile furnished additional information concerning Dr. John O. Rush; and Dr. D. F. Talley of Birmingham and Mrs. A. F. Toole of Talladega furnished additional information about the teachings at the Birmingham Medical College and Dr. A. F. Toole. I have quoted freely from the different articles mentioned. Undoubtedly my short comings are many, for which I ask the kind indulgence of those who notice them.

303-304-305-306 Van Antwerp Building.

A BRIEF REVIEW OF THE PATHOLOGY OF THE ENDOMETRIUM*

By

L. C. POSEY, M. D.
Birmingham, Alabama

Progress in gynecologic pathology has been rapid. The successful isolation of more or less potent hormones from the ovaries and the pituitary has created perplexing problems for the busy physician. In this communication it is desired to outline the changes which occur in the endometrium during the normal menstrual cycle and to correlate the abnormal patterns with hormone irregularities.

A number of reviews^{1, 2, 3, 4, 5} of endome-

*Read before the Jefferson County Medical Society, March 6, 1939.

1. Burch, J. C., et al.: Etiology of Endometrial Hyperplasia, Surg., Gynec. & Obst. 53: 338, 1931.

2. Herrell, W. E., and Broders, A. C.: Histological Studies of Endometrium During Various Phases of Menstrual Cycle, Surg., Gynec. & Obst. 61: 751, 1935.

3. Campbell, R. E., et al.: Endometrial Histology and Pathology as Revealed by the Biopsy Method, Surg., Gynec. & Obst. 63: 724, 1936.

4. Rock, J., and Bartlett, M. K.: Biopsy Studies of Human Endometrium; Criteria of Dating and Information About Amenorrhea, Menorrhagia, and Time of Ovulation, J. A. M. A. 108: 2022, 1937.

5. Herrell, W. E.: Endometrial Histology in Relation to Ovarian Function, Am. J. Clin. Path. 8: 315, 1938.

trial cyclic changes have been published since the early studies of Hitschmann and Adler. For simplicity, the cycle is divided into three stages: the proliferative or follicular phase, the secretory or luteal phase, and menstruation. Ovulation takes place ten to fourteen days from the first day of menstruation.^{6, 7} Rock and Bartlett⁴ select as arbitrary standards, for regularly menstruating women, ovulation on the fourteenth day, corpus luteum effect on the fifteenth day, and menstruation on the twenty-eighth day of the cycle.

The proliferative phase is the result of estrin stimulation of the endometrium, and its duration corresponds to the growth of the ovarian follicle. The phase ends abruptly with ovulation. The endometrium shows changes which are characteristic. Simple tubular glands and compact stroma show progressive evidence of growth. The glandular cells are hyperchromic. Epithelial nuclei are compact, elongated, pseudostratified, and show frequent dividing forms. The stroma at first is compact and the cells are small. In time these stroma cells increase in size and show mitosis.

The secretory phase begins abruptly with rupture of the follicle and formation of the corpus luteum. The patterns of the endometrium in this phase are more definite, and the experienced histologist can follow the changes from day to day (Rock and Bartlett). The glands become more tortuous, elongated, and corkscrew like. The glandular epithelium becomes paler, nuclei are oval or rounded and align themselves in the basal stratum of the cell. Secretion globules are formed beneath the nuclei and displace the latter to the middle stratum. The stroma cells near the surface are separated by fluid infiltration. Vascular networks become prominent. The stroma cells develop more cytoplasm and gradually fill in the edema spaces, thus forming a solid sheet called the "predecidua." During the three to four days prior to menstruation, numerous lymphocytes and a few neutrophils infiltrate the more superficial zones. At this time three well-defined zones are demarcated. The

6. Kurzrok, R., et al.: Studies Relating to Time of Human Ovulation, Am. J. Obst. & Gynec. 28: 319, 1934.

7. Kurzrok, R., et al.: The Treatment of Amenorrhea with Large Doses of Estrogenic Hormone, Am. J. Obst. & Gynec. 29: 771, 1935.

superficial layer is closely crowded and is termed zona compacta. The middle layer, composed of the more tortuous portions of the glands, now appears spongy—zona spongiosa. The basal layer (zona basalis) retains its more compact stroma. The basal gland epithelium shows changes characteristic of the phase, but the stroma undergoes little change.

In the event of pregnancy the stroma cells increase in size to form true decidua. If, however, pregnancy does not occur, the corpus luteum dies and the predecidua is cast off. More or less bleeding occurs from the enlarged blood vessels. The stage of tissue loss occupies about 24 hours, after which the epithelium of the basal gland fragments proliferates to resurface the barren areas and the cycle repeats.

It is noted that the cycle changes are dominant in the most superficial portion, a point to keep in mind when doing curettage for cycle studies. It is also practical to remember that ovulation is followed almost immediately by recognizable luteal changes in the endometrium. This knowledge may be helpful in determining the proper time for artificial insemination. If corpus luteum effect does not occur, it is presumptive evidence that ovulation has been missed.

The hormonal impulses responsible for the cycle changes have been partially elucidated. It has been estimated that 40,000 rat units of estrin are elaborated by the follicle and about 30 to 50 rat units of progesterin are produced by the corpus luteum.⁷ Novak⁸ presents a simple diagram showing the interrelations of the "sex center" pituitary body, follicle and corpus luteum of the ovary and the corresponding patterns of the endometrium.

Ovarian deficiency may be primary or secondary.⁹ In the latter type the other endocrines may be at fault. General constitutional diseases (anemia, focal infection, nutritional disturbances, etc.) may also lead to secondary ovarian failure.¹⁰

Complete ovarian failure occurs from destructive disease (infection) of the ovary, radiation, castration and, of course, menopause. The endometrial pattern is one of inactivity, represented by a thin membrane containing only scattered simple tubular glands. To this type of endometrium we apply the term atrophic. Such an endometrium is entirely quiescent and is associated with amenorrhea. It is reported that abnormal uterine bleeding may occur from this atrophic type of endometrium.¹¹ Naturally, endometrial biopsy from such patients will yield little or no tissue.

Partial ovarian failure is probably the most common ovarian abnormality. This type is represented by the large group of patients showing deficient progesterin and commonly having abnormal (functional) uterine bleeding and also repeated abortions. The most outstanding feature of the group is the presence of cystic glands in the endometrium. The presence of cystic glands heralds menopause. According to Herrell⁵ and Randall and Herrell,¹² cystic glands are due to the action of estrin on the endometrium when it is unopposed by progesterin. It is the result of prolonged estrin stimulation and infers failure of the corpus luteum. Urinary pregnandiol excretion has been studied in a few cases showing cystic endometrial glands.¹³ They found low values for urinary pregnandiol in the presence of cystic glands. Pregnandiol is the excretion product of progesterin. Its excretion corresponds to the activity of corpus luteum.¹⁴ The glandular cysts are lined by a somewhat changed epithelium, which is compressed by pressure from within the lumen. Cysts may be present during the proliferative and secretory phases, so suggesting the possibility of partial progesterin deficiency. The terms

8. Novak, E.: Some Newer Aspects of Reproductive Physiology, *Am. J. Obst. & Gynec.* 30: 495, 1935.

9. Burch, J. C., et al.: The Diagnosis and Classification of Menstrual Disorders, *J. A. M. A.* 108: 96, 1937.

10. Burch, J. C., et al.: The Treatment of Menorrhagia and Metrorrhagia by Endocrine Products, *J. A. M. A.* 109: 1869, 1937.

11. Anspach, B. M., and Hoffman, J.: Endometrial Findings in Functional Menstrual Disorders. *Am. J. Obst. & Gynec.* 28: 473, 1934.

12. Randall, L. M., and Herrell, W. E.: Cystic Changes in Endometrium, *Surg., Gynec. & Obst.* 65: 666, 1937.

13. Wilson, R. B.; Randall, L. M., and Osterberg, A. E.: Studies on Pregnandiol; Preliminary Report on Relation of Amounts of Pregnandiol in Urine to Microscopic Appearance of Endometrium, *Proc. Staff Meet. Mayo Clin.* 13: 197, 1938.

14. Venning, E. H., and Browne, J. S. L.: Studies on Corpus Luteum Function; Urinary Excretion of Sodium Pregnandiol Glycuronide in Human Menstrual Cycle, *Endocrinology* 21: 711, 1937.

cystic glandular hyperplasia or dysplasia may be used to designate this endometrial pattern. The extreme is the classic "Swiss cheese" type.

Overactivity of the follicle produces a hyperplasia of the endometrium. This has been produced experimentally by injection of excessive amounts of estrogen in animals.^{2, 15, 16, 17} Zondek¹⁷ produced aseptic inflammation in the endometrium of rabbits after prolonged injections of large amounts of follicle hormone. We have seen similar cystic glands filled with leukocytes in marked hyperplasia.

Hyperplasia of the endometrium is merely a persistence of the follicular phase and is associated with follicle cysts of the ovaries. The term "endometrial hyperplasia" is not applied unless the glandular epithelium is thickened, hyperchromic, actively growing, and the glands are forming cysts. Unless the cysts are present such patterns can be classed only as late proliferative phase. As stated above, the cysts are due

to prolonged estrogen stimulation, and when they are present along with a marked proliferative pattern it is certain that the follicle is persisting. The actual cause of persistent ovarian follicles is not yet clear. Once it is established, it is easy to understand how the disturbance may continue. Burch et al.¹⁸ suggest that the estrin increases until it reaches a level which suppresses the pituitary body and production of follicular luteinizing hormone is partially or completely blocked. The result is that corpora lutea do not form.¹⁹ Burch and coworkers suggest further that in older individuals the ovaries become resistant to the pituitary hormones so that luteinization is inadequate. We agree with this theory because a most common finding in endometria just prior to menopause is the cystic glandular dysplasia mentioned above. (Fig. 1) This pattern is not that of a particularly active proliferation. On the other hand, severe functional bleeding is seen in the younger patients associated with a husky endometrial proliferation. The endometrium at times is so markedly thickened as to form polypoid folds visible

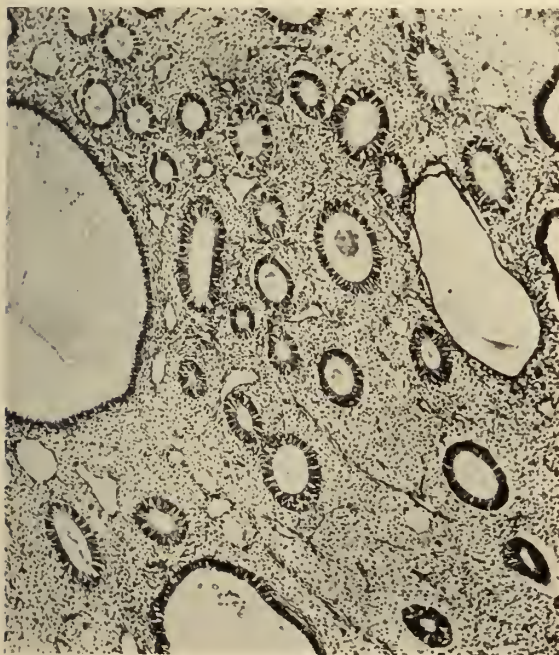


Fig. 1. Cystic glandular dysplasia.

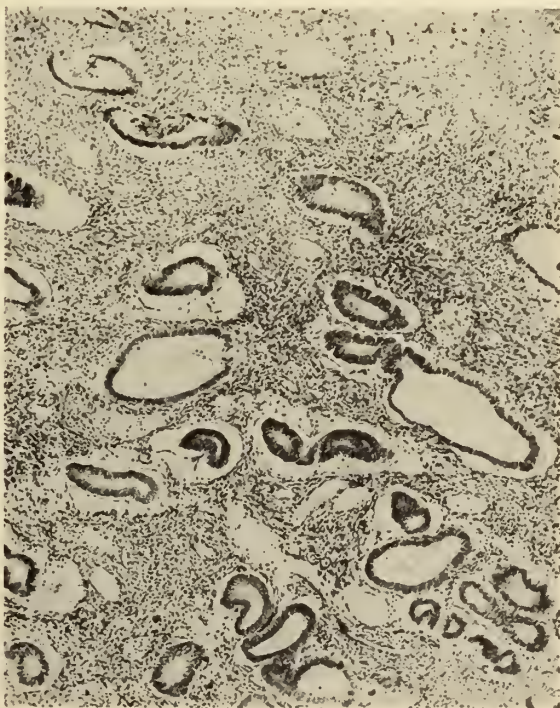


Fig. 2. Polypoid glandular hyperplasia.

15. Zuckerman, S., and Morse, A. H.: Experimental Production of Excessive Endometrial Hyperplasia, *Surg., Gynec. & Obst.* 61: 15, 1935.

16. Parkes, A. S.: Experimental Endometrial Hyperplasia. *Lancet* 1: 485, 1935.

17. Zondek, B.: The Effect of Prolonged Application of Larger Doses of Follicular Hormone on the Uterus of Rabbits, *J. Exp. Med.* 63: 789, 1936.

18. Burch, J. C., et al.: (1934) Cited by Hamblen and Thomas.

19. Schroeder: (1915) (1924) Cited by Hamblen and Thomas.

in the gross. The term polypoid glandular hyperplasia is used to designate this type. (Fig. 2)

We have performed autopsies on two young Negroes, 19 and 20 years of age, who had severe uterine bleeding for eight and nine years, respectively. Diagnoses of marked hyperplasia had been made on endometrial biopsies prior to death. Both had menstruated abnormally from the onset of puberty. One had been treated by complete curettage on three occasions and had been seen irregularly at the Hillman Clinic over a period of four years. Both died of anemia and intercurrent infections. Their hemoglobin estimations were 33% and 20% respectively. At autopsy the ovaries of both showed follicle cysts and no gross or microscopic signs of luteinization. Their uteruses were slightly enlarged and the myometria were apparently normal. The endometria showed extreme hyperplasia. (Fig. 2)

Payne's series²⁰ of 500 cases shows that endometrial hyperplasia may be present from the second through the seventh decades. The condition has also been observed in early infancy by Spivack.²¹ He attributes this hyperplasia to changes in the pituitary. Schroeder¹⁹ states that 82 to 84% of the cases of hyperplasia occur after 35 years of age, while King²² believes hyperplasia accounts for about 50% of all cases of abnormal uterine bleeding from puberty to menopause. Payne²⁰ noted that hyperplasia may accompany any and every type of pelvic condition, with the exception of pregnancy and its complications.

The actual cause of bleeding in functional cases has not yet been clearly grounded. Hormone withdrawal produces bleeding promptly in animals (Allen, 1926-1927)²³ and castrate women (Kaufmann, 1932; Clauberg, 1933; and Loesser, 1933).²⁴ It is interesting that bleeding occurs after withdrawal

of progestin even though the blood estrin remains high.²⁵ This phenomenon is easily understood, since we know that estrin sensitizes the endometrium to progestin, and once progestin converts the endometrium into a secretory phase, the estrin no longer will produce growth. It is the result of this knowledge that gives impetus to treatment of hyperplasias of the endometrium with progesterone.²⁶ Novak²⁷ describes a "bleeding level" in the endometrium; i.e., a variation in vascular permeability, which varies markedly in different individuals. He and others^{11, 20} have observed bleeding to occur from normal interval type as well as from a "Swiss cheese" type of endometrium.

Recently a number of workers have attempted to correlate leiomyoma and endometrial hyperplasia.^{19, 22, 29} The proponents of this theory believe that hyperestrinism over a period of time results both in overstimulation of the myometrium and the endometrium, with the production of leiomyoma and endometrial hyperplasia. Hyperestrinism may be the result of inflammations around the ovary, thus accounting for the high incidence of leiomyomata in Negroes. This theory is opposed by Payne²⁰ and Kanter and coworkers.³⁰ It is alleged that in cases of larger fibroids the endometrium may be atrophic as a result of pressure and interference with the blood supply. Our statistics on a small series of unselected leiomyomatous tumors of the uterus show hyperplasia of the endometrium in only four, while normal proliferative phase is present in twenty-five, normal secretory phase in twenty-one, atrophic in fifteen, and

25. Engle, E. T., and Smith, P. E.: The Role of Estrin and Progestin in Experimental Menstruation. Complete Ovulatory Cycle in Monkeys and Human Beings, *Am. J. Obst. & Gynec.* 29: 787, 1935.

26. Wilson, K. M., and Elden, C. A.: Some Points in the Treatment of Endometrial Hyperplasia by Progesterone Therapy, *Am. J. Obst. & Gynec.* 32: 195, 1936.

27. Novak, E.: Cf. Discussion of Payne's Paper.

28. Witherspoon, J. T.: The Estrogenic Principle; the Common Etiological Factor of Endometrial Hyperplasia, Uterine Fibroids, and Endometriosis, *Surg., Gynec. & Obst.* 61: 743, 1935.

29. Blair, E. M.: Endometrial Hyperplasia: A Clinical Entity, *Canad. M. A. J.* 35: 603, 1936.

30. Kanter, A. C., et al.: A Study of Fibromyomas of the Uterus with Respect to the Endometrium, Myometrium, Symptoms and Associated Pathology, *Am. J. Obst. & Gynec.* 32: 183, 1936.

20. Payne, F. L.: The Clinical Significance of Endometrial Hyperplasia, *Am. J. Obst. & Gynec.* 34: 762, 1937.

21. Spivack, M.: Polycystic Ovaries in the Newborn and Early Infancy and their Relation to Structure of Endometrium, *Am. J. Obst. & Gynec.* 27: 157, 1934.

22. King, J. E.: Endometrial Hyperplasia and its Relation to Endocrine Dysfunction, *Am. J. Obst. & Gynec.* 26: 582, 1933.

23. Allen: (1926-1927) Cited by Engle and Smith.

24. Kaufman (1932), Clauberg (1933), and Loesser (1933): Cited by Engle and Smith.

decidual reaction in one. Cystic endometrial glands were seen in six instances. These figures do not support a common etiologic factor of hyperestrinism in hyperplasia of endometrium and leiomyomata of the uterus. The figures support the findings of Payne and coworkers.

Reference was made above to extreme endometrial hyperplasia producing polypoid folds of the endometrium. The possibility of focal hyperplasia in the endometrium leading to formation of endometrial polyps is suggested. Once a small surface irregularity protrudes, it may lengthen from its own weight and by traction on the base cause venous and lymphatic obstruction and thereby produce a polyp. In endometrial polyps one finds all of the changes necessary for diagnosis of endometrial hyperplasia. Thus some glands are cystic, while others are smaller and often show signs of proliferation.

The granulosa cell tumor of the ovary is associated in every case with hyperplasia of the endometrium. These tumors arise from the lining cells of the graafian follicles which produce estrin, and this stimulates the endometrium as stated above. For our present knowledge of these tumors we are indebted to Robert Meyer,³¹ who has studied a series of twenty-three cases. Novak and Brawner³² reviewed thirty-two cases among the records of Johns Hopkins Hospital. Meyer called attention to the great confusion of these tumors with ovarian carcinomas, and it is probable that the granulosa cell tumor is far more common than statistics reveal. That these tumors contain large amounts of estrin has been proved by Gospe,³³ Parker,³⁴ and Adair and Watts.³⁵ Gospe's tumor contained 3.2 mouse units of estrin per gram of fresh tissue. In a summary of 164 cases collected from the literature, the granulosa cell tumor occurs from

the first through the seventh decade. It is commonest at the extremes of menstrual life. Wolfe and Kaminester³⁶ state that vaginal bleeding, enlargement of the uterus, and ovarian tumor form a triad of symptoms clinically diagnostic of granulosa cell tumor. These tumors as a rule are benign, though a few have been reported with extensive metastasis. Only about 6.7% occur bilaterally. In the past two years we have had two granulosa cell tumors for study. Another specimen from a patient 63 years old with vaginal bleeding appears to be a granulosa cell carcinoma. Our most typical case was that of a 44 year old white woman who had had menopause three years before. She complained of irregular uterine bleeding for two to three months and continuous severe bleeding for ten days prior to entry. The ovaries were both enlarged (right 12 x 8 x 7 cm. and left 6.5 x 5.5 x 4.5 cm.) The cut surface showed finely glandular yellowish-white solid tumor interrupted by numerous cysts filled with a serous fluid. Many of the cysts were 2 to 3 cm. and one was 5 cm. in diameter. The uterus was enlarged and boggy. A large polypoid mass of thickened



Fig. 3. Section of ovary showing granulosa cell tumor.

31. Meyer, Rob't.: Pathology of Some Special Ovarian Tumors and their Relation to Sex Characteristics, *Am. J. Obst. & Gynec.* 22: 697, 1931.

32. Novak, E., and Brawner, J. N.: Granulosa Cell Tumors of Ovary, *Am. J. Obst. & Gynec.* 28: 637, 1934.

33. Gospe, S. M.: Bio-Assay of a Granulosa Cell Tumor, *Am. J. Obst. & Gynec.* 32: 495, 1936.

34. Parker: Reported by J. E. Meigs and L. Parsons. *Granulosa Cell Tumors of Ovary*, New England J. Med. 216: 681, 1937.

35. Adair, F. L., and Watts, R. M.: A Study of Hormonal Content of Ovarian Cyst Fluids, *Am. J. Obst. & Gynec.* 34: 799, 1937.

36. Wolfe, S. A., and Kaminester, S.: Granulosa Cell Tumor of the Ovary, *Am. J. Surg.* 31: 471, 1936.

endometrium bulged through the cervical os. A somewhat smaller polypoid mass occupied the upper uterine cavity. Sections of the ovaries showed the typical columns of granulosa cells forming numerous follicles and supported by rather dense fibrous tissue. (Fig. 3)

Sections of the endometrium in this case give rise to interesting speculation. In figure 4 is seen closely crowded epithelium forming irregular glands supported by a small amount of fibrous stroma. The epithelium is hyperchromic and actively growing. It forms papillary masses which bulge into the gland lumina. The diagnosis is adenocarcinoma of the adenoma malignum type. In view of the carcinogenic activity of estrogen,^{37, 38} the possibility of this tumor of the ovary having produced the carcinoma of the endometrium can not be overlooked. It is unfortunate that an estrogen analysis of these ovarian tumors was not made. However, it has been shown that these tumors



Fig. 4. Endometrium of the case in figure 3. Adenoma malignum.

37. Lacassagne, A.: A Comparative Study of Carcinogenic Action of Certain Estrogenic Hormones, *Am. J. Cancer*, 28: 735, 1936.

38. Garner, W. U.; Smith, G. M.; Allen, Ed., and Strong, L. C.: Cancer of the Mammary Glands Induced in Male Mice Receiving Estrogenic Hormone, *Arch. Path.* 21: 265, 1936.

are rich in estrin.³³ It is believed that the excess estrin of these ovaries produced the uterine carcinoma in this patient.

In a few cases we have seen hyperplasia of the endometrium produced by anterior pituitary hormone injections. The gonadotrophic hormone stimulates the ovarian follicles which produce estrin. Estrin causes a hyperplasia of the endometrium. In figures 5 and 6 is shown an endometrium before and after "antophysin" injections. Note the marked hyperplasia in the latter. Some while ago a patient had been given folliculin (theelin) for itching of the vagina. Within a week after the medication was begun, vaginal spotting appeared. The doctor then became worried and took a biopsy of the endometrium. Hyperplasia had been produced.

Overactivity of the corpus luteum is seen in two clinical conditions. First, the luteoma tumors of the ovary. These tumors are somewhat related to granulosa cells but are

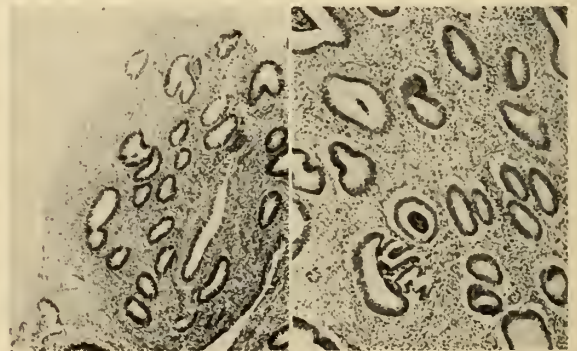


Fig. 5. Proliferative phase of endometrium.

Fig. 6. Same patient as in figure 5 after "antophysin." Endometrial hyperplasia.

of such rarity that at present they are certainly curiosities. The most recent case of luteoma in English literature is that of Willis and Romano.³⁹ Second is pregnancy, a very common abdominal tumor. We all know that the corpus luteum persists in pregnancy. The formation of decidual tissue contributes to the maternal portion of the placenta. If pregnancy occurs in some place other than the uterus, the decidua is formed by endometrium but the fetal elements are not present and a placenta does not form in the uterus. The condition in the uterus is analogous to that in the rabbit in pseudo-

39. Willis, S. H., and Romano, S. A.: Report of a Case of Luteoma with Review of the Literature, *Am. J. Obst. & Gynec.* 29: 845, 1935.

cyesis induced artificially. The endometrial study on a patient recently confirmed a clinical suspicion of ectopic pregnancy. The patient had severe pain but no uterine bleeding. The endometrium showed true decidua which was well preserved and infiltrated by only occasional lymphocytes. Not only was ectopic pregnancy suggested but it was also presumed that the fetus was alive and the corpus luteum actively functioning. Three days after biopsy our suspicions were all confirmed at operation. A tubal pregnancy was found. It had been ruptured only a few hours when the patient had experienced much more severe pain. There had been no vaginal bleeding in this patient at any time.

Any discussion of endometrial pathology must include corporeal cancer. Numerous attempts have been made to correlate hyperplasia of the endometrium with cancer of the uterus (Cullen, 1929; Hintze, 1929; Taylor 1932; and Novak 1933), cited by Hamblen and Thomas,⁴⁰ Payne²⁰ and Novak, 1936.⁴¹ No direct relation could be revealed between the two. Novak,⁴¹ however, calls attention to a common relation of postmenopausal hyperplasia and corporeal carcinoma, and suggests that the carcinogenic properties of estrin may be causative. In our cases of granulosa cell tumor of the ovary, the endometria showed a marked proliferation, which we must designate in one case malignant adenoma and in another adenocarcinoma, since the latter showed distant metastasis. Novak⁴¹ speaks of a squamous metaplasia of the surface or glandular epithelium previously described by numerous authors (Polano, Englehorn, cited by Novak).⁴² This metaplasia is rather regarded by Novak and Yui⁴¹ as a benign concomitant of the malignant cylindric-cell carcinoma, but it may at times assume malignant characteristics of its own (adenocanthoma). The squamous metaplasia has been produc-

ed in castrate rats by injection of estrin—Migliovacca, 1935,⁴¹ also by McEuen, 1936.⁴³ Migliovacca believes that prolactin A, present in castrated animals, and the estrin are responsible for these changes. In Payne's²⁰ series of hyperplasias cancer of the body of the uterus was associated in only 2.4% of 534 cases. Fundal malignancy and hyperplasia were associated 5.8 times more frequently after menopause, while carcinoma alone was only 3.3 times more common after menopause than during active menstrual life. At present no definite conclusions can be drawn except that we know carcinogenic chemicals, the sex hormones, bile acids and sterols are chemically closely related and their physiologic activities overlap.

Corporeal carcinoma of the uterus is not so common as cervical carcinoma. Meigs⁴⁴ cites the ratio at Massachusetts General Hospital as 1 to 3.7. He quotes Lockyer's ratio 1 to 9 and Norris and Voght's as 1 to 3, respectively. A group of 505 cases of corporeal carcinomata cases collected from the literature⁴⁵ shows that cancer may be present in the body of the uterus from the second through the ninth decades. Peterson's⁴⁶ statistics show that cancer of the body of the uterus reaches its peak of incidence fifteen years later than cancer of the cervix.

Cancer is referred to in this report with the hope of encouraging early curative treatment on the part of the clinician. It is believed that every case of uterine bleeding, regardless of age or secondary signs of cancer, should be put to sleep and given a complete curettage. Every piece of tissue removed should be studied for possible cancer. Until this has been done, it is believed it is an injustice to treat such a patient. A cancer of the uterine body can be so small as to be completely missed by a casual curettage. This is particularly so if it be located in the cornua. Such a case has been seen in the past few months. A diagnostic curet-

40. Hamblen, E. C., and Thomas, W. L., Jr.: Hyperplasia of Endometrium: A Study of Endometrium After Treatment, *South. M. J.* 29: 269, 1936.

41. Novak, E., and Yui, E.: Relation of Endometrial Hyperplasia to Adenocarcinoma of the Uterus, *Am. J. Obst. & Gynec.* 32: 674, 1936. Citation of Migliavacca.

42. Novak, E.: The Pathological Diagnosis of Early Cervical and Corporeal Cancer with Differentiation from Pseudomalignant Inflammatory Lesions, *Am. Obst. & Gynec.* 28: 449, 1929. Citation of Polano and Englehorn.

43. McEuen, C. S.: Endometrial Metaplasia Produced in Rats by Prolonged Administration of Estrin (Female Sex Hormone), *Am. J. Cancer* 27: 91, 1936.

44. Meigs, J. V.: Tumors of the Female Pelvic Organs, The Macmillan Company, New York, 1934.

45. Compiled from reports by Norris and Dunn, Newell and Crossen, Peterson and Healy and Cutler.

46. Peterson, R.: Age Distribution and Age Incidence in 500 Cases of Cancer of the Uterus. *Surg., Gynec. & Obst.* 29: 544, 1919.

tage was done by an experienced surgeon. The material submitted for frozen section showed no more than hyperplasia of the endometrium. A supracervical hysterectomy was done, and when the uterus was opened, a small, definite carcinoma was present in one cornu. The frozen section biopsy showed atypical glands when examined in paraffin sections, and only then could definite suspicion of cancer be made. This incidence offers two valuable points. First, a frozen section diagnosis of uterine curettings can only be tentative. It may be added that this has been the experience of others.⁴⁷ Second, a carcinoma of the uterus may be hidden in the cornua.

Corporeal carcinomata have been divided by Healy and Cutler⁴⁸ into four grades. The classification is similar to that described by Mahle and has been adopted by most authorities, including Crossen and Newell,⁴⁹ Meigs⁴⁴ and Ewing. The classification is: Grade I, superficial papillary adenoma malignum; Grade II, adenoma malignum; Grade III, adenocarcinoma; and Grade IV, diffuse (anaplastic) carcinoma.

In the Grade I type, cures may follow a simple curettage. The lesion is entirely superficial and the cells are not very atypical. Grade II, adenoma malignum, shows markedly enlarged glands, which may be elongated, folded, and convoluted, so forming papillary masses. The cells are cubical or cylindrical and are arranged in compact layers about the gland lumina. The nuclei are hyperchromic. Mitosis is frequent. The stroma is conspicuously scant. Adjacent glands may come in direct contact. Polarity is elsewhere retained. Grade III, or adenocarcinoma, shows cells which grow in cords or columns. Their polarity is lost and the stroma is infiltrated. These cells are more atypical. Glandular arrangement is maintained. Not infrequently the tumor may show adenoma malignum in some portions. Grade IV, or diffuse (embryonal, anaplastic) carcinoma, shows complete loss of polarity and loss of glandular arrangement. Growth is diffuse, composed of small, round

or polyhedral cells, which are closely packed and occur in sheets or cords. The nuclei are small hyperchromic and cytoplasm is scant. Marked anaplasia, complete lack of differentiation and numerous dividing cells are present. The adenoacanthoma is a tumor which shows both squamous and cylindrical types of cells. It is highly malignant, though fortunately rare. Radium treatment is to be avoided in adenoacanthoma (Meigs).⁴⁴ The commonest type of cancer of the uterine body is Grade II, as is true cancer of the cervix.

An extremely rare cause of uterine bleeding is tuberculous endometritis. It is readily diagnosed from biopsy. Norris⁵⁰ states that 74 cases of genital tuberculosis occurred in 15,130 specimens seen in the Obstetrical and Gynecological Laboratory, University of Pennsylvania. Berkeley⁵¹ found genital tuberculosis in 7.7% of 798 tuberculous women examined at autopsy. Danforth⁵² states that tuberculosis of the cervix is almost always secondary to tuberculosis elsewhere in the genital tract or lungs.

We have made diagnoses of tuberculosis in biopsy materials from three recent gynecologic patients. Two were cervical biopsies and one was endometrial. One of the patients with the cervical lesion proved to have tuberculous panmetritis, as showed by



Fig. 7. Tuberculous endometritis.

47. Sears, N. P.: (1937) See discussion of Payne's paper (20).

48. Healy, W. P., and Cutler, M.: Radiation and Surgical Treatment of Carcinoma of the Body of the Uterus, *Am. J. Obst. & Gynec.* 19: 457, 1930.

49. Crossen, H. S., and Newell, A. U.: Five-Year Results in 56 Cases of Carcinoma of Corpus Uteri, *Am. J. Obst. & Gynec.* 29: 326, 1935.

50. Norris, C. C.: Cited by Danforth.

51. Berkeley, C.: Cited by Danforth.

52. Danforth, W. C.: Tuberculosis of the Cervix. *Am. J. Surg.* 106: 407, 1937.

endometrial biopsy and later hysterectomy. The third patient is of interest because of the clinical treatment prior to an exact diagnosis. She was a 29 year old white woman who complained of uterine bleeding of 13 months' duration. The bleeding followed abortion at two months gestation, and had continued each day. She was given trial injections of antuitrin by a clinician, who found no obvious genital pathology on physical examination. The antuitrin therapy had no effect on the bleeding. An endometrial biopsy showed tuberculous endometritis. (Fig. 7) A panhysterectomy was done and recovery was uneventful.

In conclusion, let me recommend the use of the suction biopsy curets, such as those described by Klingler and Burch,⁵³ also Novak.⁵⁴ These instruments may be inserted through the undilated uterine canal and the endometrial tissue obtained as an office procedure. Curetings obtained in this manner will give reliable information as to the endometrial patterns. The procedure should not be used to rule out cancer, since only complete curettage is suitable for this purpose.

CONCLUSIONS

1. The endometrial cycle is conveniently divided into three phases, namely, proliferative (follicular), secretory (luteal) and menstrual.

2. Ovarian deficiency may be recognized by study of the endometrium. The deficient hormone is usually evident. Cystic glands in endometrium indicate failure of corpus luteum. Atrophic endometrium is caused by follicle failure.

3. Ovarian overactivity can be classified by endometrial biopsy. Hyperplasia of endometrium implies overactivity of the follicle. Decidual reaction in the endometrium, in the absence of fetal placental component, is present in ectopic pregnancy and in the rare tumor corpus luteoma.

4. No apparent etiologic relation can be established between endometrial hyperplasia and leiomyoma.

5. Uterine bleeding may occur from any endometrial pattern. The cause of bleeding is still debatable.

53. Klingler, J. H., and Burch, J. C.: Suction in Obtaining Endometrial Biopsies, J. A. M. A. 99: 559, 1932.

54. Novak, E.: A Suction Curet Apparatus for Endometrial Biopsy, J. A. M. A. 104: 1497, 1935.

6. Granulosa cell tumor causes marked hyperplasia of the endometrium. It may produce a carcinoma of the endometrium.

7. In bleeding gynecologic patients, cancer should be ruled out first. The cancer may be obscured in the cornua.

8. Tuberculous endometritis causes uterine bleeding. It is readily diagnosed by biopsy.

9. Suction curets have their uses and limitations.

Cancer—I believe that today practically all cases of cancer find the way comparatively early to the offices of those who are prepared to treat cancer adequately. I say practically, but not all. There is still much educational work to be done, both with the public and the physician. We have not yet completely eradicated the old and prevalent idea that certain conditions of the skin should be let alone for fear cancer will develop. Further educational work along this line is necessary. To obtain this objective the following points should be emphasized: any lesion, that does not heal as normally as one has the right to expect, should be considered as a possible cancer: any mole, wart or scar, that is subject to irritation, is likely to become malignant. Finally, no greater mistake can ever be made than to tell a patient to wait for pain. When a cancer causes pain, it is too late. Every dermatologist should consider it his duty to impress these facts on all his patients. It is your duty to make a missionary out of every satisfied patient. In this way you will aid the cancer educational work, improve cancer therapy, and at the same time legitimately increase your own practice. In South Carolina much of this work has been fostered by the American Society for the Control of Cancer. The formation of a State Cancer Committee to work with the society in a cancer educational program has played no small part in the advancement of cancer education. Their success has not been limited to the actual work done by the society, for it has stimulated repeated educational talks and clinics on cancer in practically every institution, and before almost every civic organization in the state.—Allison, South. M. J., Jan. '40.

Cracking or snapping of joints, when unaccompanied with pain, swelling or other evidence of arthritis, is of no clinical significance, according to *The Journal of the American Medical Association* for Nov. 25.

The development of the cracking, *The Journal* states, "is similar to that of the cracking that is made by children and occasionally by adults when the distal phalanx of a finger is suddenly pulled distally. The surfaces of interphalangeal joints which are suddenly pulled apart will cause a popping sound similar to, and perhaps produced in the same way as, the noise made by abruptly pulling the tongue away from the roof of the mouth.

THE JOURNAL

of the

Medical Association of the State of Alabama

Editor-in-Chief

FRED W. WILKERSON Montgomery

Associate Editors

M. Y. DABNEY Birmingham

W. D. PARTLOW Tuscaloosa

J. N. BAKER Montgomery

DOUGLAS L. CANNON Montgomery

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

Office of Publication

519 Dexter Avenue Montgomery, Ala.

Subscription Price \$3.00 Per Year

February 1940

COMMONWEALTH FUND'S POSTGRADUATE FELLOWSHIPS

The attention of the Association's membership is again directed to the article appearing in the January issue of the Journal under the Association Forum dealing with postgraduate study at Vanderbilt during the coming summer which has been made possible by the Commonwealth Fund of New York City. Twenty such fellowships, of one month's duration, have been placed at the disposal of Alabama physicians under certain conditions which are set forth in this article. The monthly stipend allowed physicians selected is \$250, plus tuition and travel. Those physicians desiring one or more of the courses offered should request blanks immediately either from the Commonwealth Fund, 41 East 57th Street, New York City, or direct through the State Health Officer, J. N. Baker, Montgomery, inasmuch as all applications will be reviewed by representatives of the Fund sometime during March 1940. A postcard to either address will bring the necessary blanks to be filled in.

It is felt that these courses should prove alike worth while and stimulating to not a few of our members who, though feeling the need for such refresher work, may have experienced financial difficulties in providing it unassisted. Consequently any member

coming within the age limit (not over 50 years and preferably not more than 45) should act promptly.

CONVULSIONS IN CHILDHOOD

For many years Peterman¹ of Milwaukee has been deeply interested in the convulsions of childhood and he now presents a study of them based on 1,000 cases. Convulsions in the newborn to one month accounted for 7.9 per cent of the total, from 1 to 6 months 13.8 per cent, from 6 to 36 months 44.2 per cent, from 3 to 10 years 25.1 per cent and from 10 to 16 years 5.6 per cent. As to the etiology of the 1,000 cases, 34 per cent were due to acute infection, 23.6 per cent to idiopathic epilepsy, 15.5 per cent to cerebral birth injury or residue, 12.7 per cent to miscellaneous causes, 8.9 per cent to spasmophilia or tetany and in 5.3 per cent the cause was not established. The author states that "these cases were studied as thoroughly as facilities permitted. A detailed history was obtained of the family and of the patient. Blood counts, urinalyses, spinal fluid examinations and Wassermann tests were made on all patients. Blood chemistry studies, particularly determinations of sugar, calcium and phosphorus and roentgenograms, including encephalograms, were made when they seemed indicated. Treatment was instituted and the patients were followed as long as possible."

The author further states that "I have previously emphasized the fact that 'teething,' worms and adhesions of the foreskin or clitoris are not causes of convulsions. Delayed dentition is often associated with rickets. If spasmophilia follows, convulsions may supervene. Thus the delayed dentition and the convulsions are due to the same common cause but bear no relation to each other.

"The medical profession is responsible, if not for the origin, at least for the persistence of the common misconceptions of the causes of convulsions. The physician must realize that a convulsion is only a symptom but nevertheless a serious one which demands a most thorough study of the patient and a determined effort to find the cause. The

1. Peterman, M. G.: Convulsions in Childhood: A Review of One Thousand Cases, J. A. M. A., 113: 194 (July 15) '39.

importance of a complete history cannot be overemphasized. For example, a history of prematurity suggests a 75 per cent possibility of some degree of intracranial hemorrhage or injury. It also connotes a strong possibility of later rickets and hence spasmophilia. . ."

Peterman tells us that "Byers and Hass have provided an explanation for many of the convulsions associated with 'gastro-enteritis.' These authors found a cerebral venous sinus thrombosis at necropsy in fifty infants who presented an indefinite clinical picture in which the outstanding symptoms were neurologic. The diagnosis was made only at necropsy. However a certain number of patients with this syndrome must recover. In these the diagnosis cannot be established. The clinical picture is one of nutritional disturbance usually followed after days or weeks by meningeal irritation, fever and convulsions. Undoubtedly a certain number of the convulsions in this series included under the group of 5.3 per cent of cases listed as cause unknown were due to dural sinus thrombosis following gastro-enteritis. . ."

The author holds that "the immediate treatment of the convulsions presents an acute problem. If there is an associated high fever, cold packs or cool sponges should be used. A cool hypertonic saline enema may be given. Magnesium sulfate may be used in 25 or 50 per cent solution. If this is not available, sodium chloride or sugar may be used in the same percentage. These procedures are safe and will keep the mother occupied until further assistance is provided. Probably more harm has been done with hot baths or hot packs than with neglect. When facilities permit, a spinal puncture should always be done. Whether the fluid is under pressure or not, the drainage will be of great assistance in making the diagnosis. The most effective, practical and rapid treatment of any convulsion, particularly of continuous convulsions, is the prompt administration of chloroform by inhalation. A vial of fresh chloroform should always be available to every physician called on to treat convulsions. While there is an element of danger in its use, the possibilities of harm are not nearly so great as is the injury to the brain resulting from a continuation of the convulsion. Morphine or opium or even chloral may be more dangerous than chloro-

form if they are improperly used. Opium derivatives should never be used to treat convulsions. They mask symptoms, depress the respiratory center and diminish or stop peristalsis.

"After spinal drainage and chloroform, the drugs of choice are magnesium sulfate, soluble phenobarbital and chloral. Magnesium sulfate may be given in 50 per cent solution by mouth or in a retention enema. It may also be given in from 25 to 50 per cent solution intramuscularly or, for immediate action, in 25 per cent sterile solution intravenously.

" . . . The aim of immediate treatment for convulsions is to reduce intracranial pressure, remove all irritation and remove the cause when possible. The physician must also keep in mind that a convulsion produces serious injury to the brain. After the convulsion the child should be treated as in every cranial injury with absolute rest and quiet for several days. This point is usually overlooked or neglected."

The average practitioner or pediatrician, denied access to many or most of the facilities enjoyed by Peterman, can but admire and be overawed by the scope and extent of Peterman's researches and the energy and persistence which made them possible. But the aforementioned practitioner or pediatrician can and, it is to be hoped, will profit by the Milwaukee investigator's work. For it is by studies such as this that knowledge is advanced, diagnosis is made more accurate and treatment is made much more effective.

AMONG OUR ADVERTISERS

Eli Lilly and Company, in its January advertisement, properly calls attention to the fact that 1940 marks the ninth consecutive year of advertising in the Journal. Throughout this period of time it has occupied the page opposite the first page of reading matter, paying therefor a preferred rate. For this evidence of interest the staff of the Journal is appreciative and hopes that the 99th year of publication will find the same happy relationship existing, not only with Eli Lilly but with Mead Johnson and Company, Fenwick Sanitarium (both long-time advertisers and occupying extra-rate places on the first and fourth covers, respectively), Parke, Davis and Company, The Gilliland Laboratories, Smith, Kline and

French Laboratories, Petrolagar, Upjohn, Westbrook Sanatorium, Brawner's, Hoyer's, John Wyeth, Hill Crest, Hynson, Westcott and Dunning, Allen's, Corn Products, Philip Morris, Squibb, Sharp and Dohme, and many others, who, throughout the years, have utilized the advertising pages of the Journal.

The staff reiterates that the Journal is made possible largely because of the cooperation of firms whose advertisements constitute a valuable part of the publication.

The Journal for its part has given assurance to its advertisers and readers that only reputable institutions will be permitted to advertise in it; and that no product that does not stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association will appear on its pages.

Members of the Association have occasion to purchase articles advertised. Other things being equal, preference should be shown firms and institutions who place announcements in the Journal.

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

THE HOSPITAL SITUATION IN ALABAMA

By

J. N. Baker, M. D.
State Health Officer

A short time ago the State Health Officer was pleased to announce through the press that President Roosevelt and health officials of the federal government had under consideration, with an excellent chance of approval, a plan whereby communities in Alabama and elsewhere, in need of improved hospital facilities for their indigent, and lacking the financial means to provide them, would be able to obtain substantial federal financial aid in their efforts to do so. The hope was expressed that a number of communities in this State would take steps to avail themselves of the opportunity to benefit from this aid, if made available.

The plan now under consideration is intended solely as a means of providing seriously needed hospital facilities for a limited number of communities which recognize their needs in this respect but lack the means to supply those needs. It provides, in brief, that the federal government will pay all costs of construction and then turn the institution, consisting of general hospitals, tuberculosis sanatoria, and medical centers, over to local groups of responsible citizens who will be expected to give assurances that the institutions thus provided will be operated in a successful and efficient manner. Title to them will remain with the federal government in every case. It should be emphasized that no federal fi-

nancial assistance is contemplated in the way of maintenance grants. This expense will have to be assumed by the communities themselves.

The State Health Officer is frequently impressed by the fact that there are many Alabama communities which are in serious need of hospital facilities, some lacking them entirely and others possessing facilities grievously incapable of meeting the hospital-care needs of their populations, particularly those who are indigent or medically indigent. Among these there are undoubtedly a number which could meet, by means of private or public funds, or both, the expenses of maintenance but would be unable, or unwilling, to provide the capital outlay necessary for the construction and equipment of these institutions. It is this type of community which should find in the plan now under consideration a most helpful solution for the problem of providing something approaching adequate hospital care for the indigent and semi-indigent among their people.

It is proposed to set the plan in operation at first in a modest sort of way and somewhat in the nature of an experiment. The proposal is different from previous plans in that it is intended as a means of placing hospital facilities in places where they are most needed and where the financial status of the communities is such that these facilities are most difficult to obtain. It was a recognized weakness of the fund-matching scheme previously used in financing PWA and WPA projects that wealthier parts of

the country, where there was relatively little need for additional hospital facilities, were able to obtain larger federal grants than the poorer, hospital-deficient communities, because they were able to raise larger sums locally for matching purposes.

A partial survey of the Alabama hospital-care picture recently completed by the State Department of Health revealed that there were 66 general hospitals in this State, all of them situated in only 38 of the State's 67 counties. This total does not include specialized institutions, hospitals operated by the federal government or small institutions which might be termed hospitals but which would be described more properly as emergency stations, because in most cases they are so poorly equipped and inadequately operated that they could hardly be expected to meet the standards set up for approval by either the American Medical Association or the State Hospital Association.

Slightly more than three-fifths of these 66 hospitals are operated as private institutions, which is to say that their primary purpose, laudable enough, is to make money for the individuals and groups of individuals by whom they were established. Not quite one-third are operated as non-profit institutions. Only one out of every ten is operated either by a city or by a county or by these two governmental units together.

The ratios just mentioned refer of course to the hospitals themselves. A distinctly different picture is revealed when we discard the hospital as a unit of measurement and consider the situation in terms of beds. Thus we find that so-called proprietary hospital beds number only 1,534, or approximately 38 per cent of the total, that beds in non-profit institutions number 1,750, or approximately 43 per cent of the total, and that those maintained by the aforementioned local-government units (specifically, cities and counties) number only 783, or about 19 per cent of the total.

No less than 29 Alabama counties having paved roads, modern schools and most of the other symbols of present-day progress, nevertheless have no general hospitals to care for their sick. Significant, in the light of the well known tendency of this type of institution to seek the cities and avoid the rural sections, is the fact that all but four of the 29 hospital-less Alabama counties are 100 per cent rural, which is another way of

saying that they contain no cities or incorporated towns having populations of 2,500 or more. In not a single county in this group does the urban population number as much as 50 per cent of the total.

The latest available information shows that Alabama has slightly less than half as many hospital beds in proportion to population as the United States as a whole. Specifically, there are now only 1.38 beds in this State for every 1,000 persons, whereas, for the country as a whole, there are 2.7 beds for every 1,000 persons. Only three Alabama counties can boast as many as three beds for every 1,000 persons, and only 10 counties in this State have as many as two beds for every 1,000 persons, even this ratio, it need hardly be emphasized, being markedly below the national average.

Nor is the complete story of the inadequacy of hospital care in Alabama told in terms of patient capacity. It is evident to all of us that hospital beds are, to all intents and purposes, non-existent until and unless they are occupied. And in 1938 only 65.8 per cent—slightly more than two out of every three—of all the beds in Alabama hospitals were in use.

This does not mean, as some might suppose, that there is an over-supply of hospitals in Alabama. Far from it. It means that the relatively high cost of hospital care stands as an impassable barrier between the need of such care and the ability of large numbers of our people to benefit from it.

In brief, poverty—both absolute poverty marked by a lack of essentials to decent living and the social condition a stage or two above that—is responsible for the fact, first, that there are not enough hospitals in Alabama, and, second, that nearly one-third of the hospital beds now provided are not in use. It is this condition which President Roosevelt and his advisers are seeking to correct by means of the scheme which has been mentioned.

Bulging granaries and loaded grocery store shelves do not prevent large numbers of people from going hungry, and empty hospital beds, idle operating rooms and out-of-use hospital equipment do not prevent large numbers of sick Alabamians, unable to pay the rates which these unendowed institutions must charge, from growing worse and actually dying from lack of proper attention. Even if Alabama had a dozen

or a hundred hospital beds for every 1,000 of her people, they would solve the State's hospital problem only to the extent that the people would be able to avail themselves of these institutions' beneficent services.

In its emphasis upon supplying the needs of hospital care for residents of rural sections, the plan now under consideration is similar to that worked out by the Commonwealth Fund. This Fund has been aiding in building rural hospitals for more than a decade. As is pointed out in a recent official bulletin, its work "means much more than putting up suitable buildings in which rural hospitals can be housed." In the words of this printed spokesman: "The building process begins before dirt flies and continues long after the throng of curious visitors has trooped out of the corridors on the opening day. What the Fund tries to build is the hospital itself—that complex group of community servants who provide care for the sick in the place prepared for them."

This Fund has erected hospitals at Murfreesboro, Tenn., Farmville, Va., Glasgow, Ky., Farmington, Me., Beloit, Kan., Wauseon, Ohio, Kingsport, Tenn., Tupelo, Miss., Ada, Okla., and Provo, Utah. A building-improvement project is now under way in Bristol, Tenn.-Va., a hospital is under construction in Lancaster, S. C., and an award has been made to the area surrounding Pittsfield, Ill.

To a community selected for a Commonwealth Fund award, the Fund agrees to contribute a sum between \$250,000 and \$300,000 toward the building and equipment costs for a fifty-bed hospital and lesser sums as needed for the completion of smaller institutions. In addition, the Fund furnishes plans and specifications for building, and advises in the purchase of equipment and in the operation and organization of the proposed hospital. The local community is required to furnish a site, with service connections to the site line and a sum varying from \$25,000 to \$50,000, the exact amount depending upon the size of the proposed institution and local financial capacity. The local community, as in the case of hospitals constructed by the other plan we are considering, must also agree to operate it according to approved standards and to guarantee to meet the full costs of operation and maintenance. It is expected that the hospitals constructed in this way will provide at least one-fourth of

their service without cost to the individuals served.

"In no other act," said the wise Cicero, "does man approach so near the gods as when he is restoring the sick to the blessings of health." In our time we know that the work of restoring the sick to health is one of the most significant expressions of the spirit of modern-day Good Samaritans. It is hoped that many Alabama communities will fulfill their obligations to their sick, especially their indigent sick, by providing these beneficent institutions of healing.

Committee Contributions

Prevention of Cancer

CANCER OF THE UTERUS

Dr. J. P. Greenhill in his new book "Office Gynecology" states:

"The cervix is one of the smallest structures of the human body, but despite this it is one of the most important from the point of view of both health and actual danger to life. It is best for the physician to think of every lesion of the cervix as a potential forerunner of cancer. In this way he will give to the cervix the attention which it deserves.

"The most common disorders of the cervix are: (1) cervicitis and endocervicitis; (2) erosions; (3) cysts; (4) polyps; (5) leukoplakia; (6) lacerations; and (7) carcinoma. Not infrequently, two or more of these conditions are present at the same time.

"The treatment of chronic cervicitis and endocervicitis, erosions and cysts is both preventive and curative. Prevention of gonorrhea will eliminate a large proportion of the cases, and proper obstetric care will prevent an additional extensive group. Prophylactic measures during labor consist of waiting for spontaneous complete dilatation of the cervix before attempting delivery, keeping the membranes intact as long as possible except for a good reason and, when possible, immediate repair of all cervical lacerations. Despite all that is known of the prophylaxis of cervical infection, more than half of all the women who have had children have some degree of chronic cervicitis. Hence, we must be prepared to treat them in one way or another in order to avoid possible disturbances."

The National Bulletin of the American Society for Control of Cancer for November 1939 reports that Dr. Catherine MacFarlane of the Women's Medical College of Pennsylvania has been conducting an experiment in cancer control by securing one thousand white women thirty years of age to go to the office or to the Cancer Prevention Clinic for pelvic examination twice a year for five years. One thousand two hundred women enlisted in this "Anticancer Campaign." The interest and cooperation of the family physicians were obtained in most cases and only one unreasonable case of cancer phobia was encountered and she had had this for years.

"In the first 1,200 examinations three cases of unsuspected cancer of the cervix were discovered. In each of these the cervix was lacerated, eroded and inflamed. In one of these cases, friability of tissue on making the probe test suggested the possibility of cancer which was confirmed by biopsy. In the other two cases, clinical appearance did not arouse the suspicion of cancer. These two volunteers were referred to the hospital for excision of the extensive area of inflammatory erosion, which had been discovered on their cervixes. Routine microscopic examination of the tissue removed, revealed an area of cancer approximately two millimeters in diameter in each case. A fourth volunteer gave a history of irregular bleeding after the menopause and curettage revealed adenocarcinoma of the body of the uterus.

"Had it not been for our cancer prevention research, it is highly probable that these four women would not have consulted a physician for months to come. By that time their cancers would have reached a much more serious stage."

The examinations done by Dr. MacFarlane and her associates are summarized as follows: After the history has been recorded, "a bimanual vaginal examination is made and the uterine cervix is carefully inspected in a good light. Ulcerated areas are tested with a probe to detect friability of tissue. Lugol's solution is applied to the cervix according to the method of Walter Schiller. If lesions resembling cancer are found, specimens of tissue are removed from these and submitted for microscopic examination."

Their recommendations to the family physician include the elimination of most of the benign lesions from the standpoint of preventive medicine, for, obviously, *when* a cancer is treated is more important than *how* it is treated. The Cancer Committee recommends that physicians of Alabama encourage their patients to have periodic examinations as one of the ways to help in the campaign of cancer control.

Maternal and Infant Welfare

NITROUS OXIDE AND OXYGEN IN HOME OBSTETRICS

A paper on "Nitrous Oxide and Oxygen in Home Obstetrics" was read by Gerald Teasley of Athens, Alabama, before the International Congress of Anesthetists, October 19, 1939, Philadelphia, Pennsylvania. Dr. Teasley presented some pertinent observations which are of interest to all who are concerned with maternal welfare.

Most of the investigations of the past have been directed toward analgesia of patients in the hospital. Very few of them advocate an analgesia for home use for "the usual ending for such papers is that the methods advanced should be limited to hospital practice under expert and constant supervision. Nitrous oxide and oxygen for home use was discussed in very few papers. The greatest interest seems to have been shown by English authorities and they have been working chiefly on an apparatus that can be used safely by a midwife."

The author makes it quite clear that the patient should understand that relief for labor pains may not mean obliteration of pain and that labor should be well established before anything should be given for her pains. He urges: "Prepare your patient mentally so that when drugs are used their best effect can be obtained." A discussion of the various analgesics is given with nembutal and seconal given as the author's choice. Inhalation anesthesia is most useful in the late first stage or early in the second stage of labor.

Experience has shown that the best combination of nitrous oxide and oxygen is nitrous oxide 90% and oxygen 10%. When the dials are set to deliver this mixture, they usually do not have to be changed. Dr. Teasley

ley describes the technique of administration in quite some detail.

He shows that the requirements of obstetric analgesia are satisfactorily met by nitrous oxide and oxygen. (1) It has a minor toxicity for mother and child even when administered over a long period of time. (He used it over a period of eleven hours in one case.) The baby needs no resuscitation. "In one series of a thousand cases, no stillbirths nor delayed respirations could be attributed to the anesthetic. It is true that the child breathes quicker with no anesthesia, ninety-eight per cent crying immediately. But, with nitrous oxide, the cry is immediate in over eighty per cent and the remainder cry well in from one to three minutes, which can be, I must admit, a long time when one is waiting anxiously for the first respiration." (2) Labor is not prolonged. (3) Portable gas

machines are now available. (4) The anesthetic must be economical. The average cost per patient in Dr. Teasley's cases was "about \$1.75, which approximates the \$2.00 average in 1,065 cases reported in England." (5) Skilled help is not essential though always an aid to the physician. "However, with the machines now available, this is not the necessity it has been. I have on several occasions allowed a member of the family to give the gas and have also had the patient give it to herself with no difficulty nor trouble. This is not a theoretical idea but the actual results obtained from practice and use of a machine in country homes under the most adverse conditions."

No claim is made by the author that this is the best form of anesthesia but that it is a great aid to both mother and physician and can be used in the rural home.

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF ADMINISTRATION

J. N. Baker, M. D.
State Health Officer in Charge

SCHOOL HYGIENE CORRECTION OF PHYSICAL DEFECTS

Contributed by
W. D. Burkhalter, M. D.
Associate in County Organization

A school child health program should have definite objectives; to

1. Detect significant physical defects by means of a careful medical examination and secure corrections by follow-up.

2. Detect communicable, notably skin, diseases and get them under the care of physicians, primarily to prevent other school children from acquiring the disease.

Considered in reverse order, school health service was organized in this country in 1894 for the purpose of controlling the communicable diseases of childhood. The skin diseases of school children which are of importance because communicable are scabies, pediculosis, ringworm and impetigo. In many instances other members of the family not attending school will also have these diseases and will keep the disease in the family unit unless all are treated at the same time.

Although it is preferable to immunize infants to diphtheria and smallpox as soon as possible after they become six months of age, some may not have received this protection before entering school. These can be conveniently reached at school and given diphtheria toxoid and smallpox vaccination while in the first grade.

Medical examinations have only one purpose—the improvement of health. The job is not even half finished when the defects are found and is still not completed when the parents are sent notices, because often no attention is paid to them. After the medical examiner detects physical defects, i. e., poor vision, loss of hearing, diseased tonsils and adenoids, malnutrition or dental caries, he should make a special effort to induce parents to do something about it. The success of the program depends upon adequate stimulation of the parents' interest. In such a case the parents will secure corrections.

Follow-up conferences with parents is one of the most important parts of this program. In the past practically all of the time available for the school hygiene program has been expended in carrying out the physical examinations. Often a hurried and cursory examination was made of every school child each year leaving no time for follow-up work. The present procedure of examining

the child on entrance to school and again in the 3rd and 6th grades will allow time for a more careful examination and for follow-up conferences. This can be modified in one-teacher rural schools by examining the children in all grades, first to sixth inclusive, on alternate years.

In a county of about 13,000 population the school children were given the routine examinations during the 1938-39 term but no follow-up services were carried out. Although some corrections of defects may have been made there were no records of any such corrections. At the beginning of the 1939-40 school term definite follow-up work was instituted. All of the children in the first, third and sixth grades were examined and the parents were not only notified that their children needed treatment but were invited to come to the school one week later to discuss the matter with the health officer. These requests were sent only to those parents whose children had significant physical defects. Individual conferences at the school were held between 48 parents and the health officer, who explained the defects found at examination and stressed the importance of securing the correction of remedial defects without delay. Six corrections were made immediately; two children had their tonsils and adenoids removed, two had carious teeth filled and two had glasses fitted. Plans were made for three other children to receive tonsillectomies at an early date.

In a county of about 18,000 population there was no follow-up service after the 1938-39 school examinations. It was stated that one or two home visits may have been made but they were not recorded. Similarly follow-up conferences with the parents at the school were held this year in this county. Forty parents, about 10% of those notified, came to the school for a conference with the health officer after receiving a notice that their children had physical defects. They expressed their interest in improving their children's health and made plans to secure corrections. The health officer said that he expected the parents to respond even better next year.

In the third county, Autauga, the follow-up conferences at school with the parents are no longer in the experimental stage, since this program has been in operation for two years. Success during the 1938-39 schol-

astic year is evidenced by the fact that 96 school children had tonsillectomies and 16 had glasses fitted. The parents have manifested an even greater interest this year; 21 of them came to one of the schools and the health officer held individual follow-up conferences with them. This required about 2½ hours and he stated that it would have required about 2½ days if follow-up home visits had been made instead. Furthermore, the former are more effective contacts because parents coming to the schools are more cooperative. It should be added that a very limited number of home visits are made by the nurse. These are in behalf of school children with serious defects whose parents for some reason failed to attend the school conferences. The Autauga County health officer recommends follow-up school conferences most enthusiastically since by this means it is possible to get a larger percentage of significant physical defects corrected. Last year's records of 112 corrections will be surpassed during the 1939-40 term.

BUREAU OF LABORATORIES

Samuel R. Damon, Ph.D., Director

SPECIMENS EXAMINED

DECEMBER 1939

Examination for diphtheria bacilli and Vincent's	917
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	392
Typhoid cultures (blood, feces and urine)	540
Examinations for malaria	843
Examinations for intestinal parasites	5,383
Serologic tests for syphilis (blood and spinal fluid)	14,034
Darkfield examinations	35
Examinations for gonococci	1,382
Examinations for tubercle bacilli	1,077
Examinations for Negri bodies (microscopic)	45
Water examinations (bacteriologic)	749
Milk examinations	1,835
Pneumococcus typing	95
Miscellaneous	792
Total specimens	28,119

NEXT ANNUAL MEETING
BIRMINGHAM
APRIL 16, 17, 18, 1940

THE DIAGNOSIS OF SECONDARY SYPHILIS

Referring again to the paper on the diagnosis of early syphilis by Joseph Earle Moore,¹ from which excerpts were reprinted last month, the following quotation is of interest in connection with the diagnosis of the disease in the secondary stage.

"In secondary syphilis the majority of patients develop lesions falling within five clinical domains:—the skin, the mucous membranes, the hair, the eyes, and the bones and joints. These lesions are so often clinically indistinguishable from other much less serious diseases that the physician's only safeguard is, first, to suspect syphilis in the presence of any of them, and, second, to check the suspicion by means of a blood serologic test. The diagnostic maxims of secondary syphilis are also worth memorizing:

1. *Do blood Wassermann following up—three months—on any lesion possibly primary syphilis.*
2. *For any generalized skin eruption—do a blood Wassermann.*

3. *For any sore mouth or throat which does not heal in ten days—do a blood Wassermann.*

4. *For any unexplained patchy loss of hair—do a blood Wassermann.*

5. *For any iritis—do a blood Wassermann.*

6. *For any polyarticular arthralgia—'acute, subacute, or chronic infectious arthritis'—do a blood Wassermann.*

The control of early syphilis depends not only on clinical diagnosis, but also on deliberate case-finding of those patients with lesions so trivial or so insignificant (a considerable group) that they do not consult a physician. Such individuals must be sought out. They may best be found by the examination of contacts of patients with known early syphilis:

Ask each patient:

1. *From whom did you get syphilis?*
2. *To whom may you have given syphilis?*

Get the contacts:

In this disease every physician must be his own public health officer. His duty to the community is not complete with the diagnosis of early syphilis in a given patient, until he has attempted to trace the source of infection and its ramifications."

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

NEW RECOMMENDATIONS FOR ARTIFICIAL IMMUNIZATION AGAINST DIPHTHERIA

Artificial immunization against diphtheria has been largely responsible for the decrease in incidence of this disease in this

country as well as throughout the world. The United States has been enjoying also the benefit of a natural declining incidence curve during recent years but there is no assurance that this curve will continue to fall but rather it may be anticipated that an upward trend will follow. It, therefore, demands that the use of an artificial stimulus be not only continued but that the program be accelerated.

In this country the three most widely accepted methods of immunization have been:

(1) Three doses of plain toxoid at intervals of three weeks.

(2) Two doses of plain toxoid at intervals of three weeks.

(3) One dose of alum-precipitated toxoid.

There have been failures with all of these methods and it is recognized today that no method will guarantee immunity in all cases. The policy of using the best possible method remains. A committee of the American Public Health Association has been studying this question for several years and is now making recommendations for the guidance of health officers. Based on these recommendations and on our own experience in Alabama the following procedure is the method approved for immunization:

1. For children under school age, and preferably between the sixth and ninth month of life, two inoculations of alum-precipitated toxoid with an interval of four weeks between the doses. The doses are to be 1 cc. each of a preparation of antigenic potency acceptable to the National Institute of Health.

2. At five or six years of age, just prior to entry upon the school career, a single reinforcing dose of not more than 0.5 cc. of alum-precipitated toxoid should be given each child inoculated in infancy as described above.

3. As a routine procedure the performance of the Schick test six months after the completion of the inoculations in infancy is desirable for private physicians but is not considered an essential procedure for health departments.

4. The above recommendations apply to children from six months to six years of age. For school children who have received no inoculations at an earlier age the Schick test is recommended, followed by three doses of plain toxoid at intervals of three weeks if found to be susceptible. The same

1. Moore, Joseph Earle.: J. Connecticut M. Soc. 1938, 2: 70.

procedure applies to adults exposed to diphtheria. Alum-precipitated toxoid is not recommended for older children and adults because of possible reactions.

This committee of the American Public Health Association offers as a substitute for (1) above the use of three doses of plain toxoid followed by a reinforcing dose at school age or the administration of one dose of alum-precipitated toxoid in infancy followed by the reinforcing dose. Two doses of plain toxoid are not recommended. It is believed, however, that the procedure suggested for Alabama is the best method known at the present time for producing immunity and accordingly it is being adopted by the State Health Department for use by all county health departments.

The attention of all private physicians is called to this recommendation for their consideration.

TREATMENT OF GONORRHEA

The suggested treatment outline for gonorrhea in clinic practice has been mimeographed for distribution as follows:

1. Sulphanilamide (for all types) try first.
2. If sulphanilamide fails or there is need for additional therapy, irrigations and/or hand injections.

Anterior Urethritis

(Treatment Confined to Anterior Urethra)

3. For irrigations use 1-800 potassium permanganate daily when possible—irrigator 2½ feet (never higher) above the urethral level. Average urethral capacity is 6-10 cc.; inject 6 cc., drain, inject 6 cc. Repeat several times.

4. For hand injections use 1-3000 potassium permanganate daily. Use ¼ ounce urethral syringe (asepto) using not more than 6 cc. of solution. Retained 5-10 minutes.

5. Patients should be instructed to urinate before irrigation or injection in order to cleanse the urethra and for the physician to examine urine by the two-glass test.

Acute Posterior Urethritis

6. Irrigations and hand injections may be continued but confined *only to anterior urethra*.

7. Reduce fluid intake.

8. Use oral medication for vesical comfort—tr. hyocyanus 10-20 m., codeine, ½ to 1 grain as necessary, or calcreose 10 grs. ½ hour after meals and 20 grs. at bedtime.

9. Hot sitz baths.

10. Rest as much as possible.

Subacute and Chronic Urethritis

11. Begin treatment when second glass of urine becomes clear.

12. Intravesical irrigations of 1-8000 potassium permanganate with irrigation can not more than 3½ feet above urethral level. Irrigate every fourth day. Temporarily discontinue irrigations if symptoms of harm arise. *Do not force sphincter—encourage patient to relax.*

13. After several weeks of irrigations, begin digital treatment of prostate gland. Massage mildly at first and every third to fourth day. If any reaction to stroking, wait a week. Irrigate previous to massage, leaving some fluid in bladder to be voided after prostatic strokings. This prevents occurrence of increase in urethral discharge.

14. Discontinue intravesical irrigations after about 6 weeks of prostatic massage.

15. Stop massages when prostatic secretion shows 5 or less white cells per high-power field.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

HEALTH SERVICES IN SCHOOLS*

HEALTH WORKERS COOPERATE WITH SCHOOL PERSONNEL

The personnel of the State and county health departments of Alabama understand that the responsibility and opportunity for teaching health and physical education rest squarely on the shoulders of the school people. Nevertheless, they realize that there is an active part which every wide awake health worker can and should take in this great educational program. Cooperation of the personnel of the State and sixty-seven county health departments is, therefore, given persons associated with departments of education in a desire to blend the program of the two groups so there will be the greatest degree of accomplishment in the program of each organization.

Each group must take into consideration that the school fits into but one part of a health program designed to produce mentally and physically sound human beings. This program actually covers the life of an individual from the cradle, or before it, to the grave. Because this fact is not generally recognized, people all too often tend to place too great emphasis on what should be accomplished for the promotion of health by the school. However, these truths should not deter personnel of health and education departments in making every effort to promote health in the schools. The services described in this bulletin are to be recom-

*Reprinted from The Education Bulletin, Alabama Education Association, December 15, 1939.

mended in the effort to accomplish the desired aims in health.

ENVIRONMENTAL SANITATION

Health workers are ready and willing at all times to advise those interested regarding the sanitation of school buildings and their environment. This includes particularly the recommendation of types of sanitary toilet facilities, water supplies, drinking arrangements, equipment, sanitation, and methods of food handling in lunchrooms, and ways and means of maintaining all of these in a most satisfactory manner. The county health officer should be interviewed regarding installation of sanitary facilities and maintenance of conditions at the school in a fashion conducive to the promotion of the health interests of all concerned.

The school should set the standard for the community in sanitation, as well as in education, recreation, and culture. The beauty and tidiness of the building and grounds depend largely upon the ideals and tastes of the teachers and pupils. The attractiveness of its appearance and correctness of its furniture and equipment are largely determined by those more constantly associated with the schools. The installation and maintenance of facilities of healthful school living should be provided by the administrator. The proper use of these facilities and equipment and the supervision of the program are responsibilities of the teachers.

The following supplies and equipment should be provided by the school administration: (1) suitable site; (2) ample playground space; (3) suitable water supply with sanitary drinking fountains or use of individual cups; (4) proper toilet facilities and bathing accommodations; (5) provision for adequate heating, lighting, and ventilation; (6) proper adjustable desks and seats; (7) adequate provision for preparing school lunches; and (8) security against hazards of fire and accident.

SCHOOL LUNCHES

Personnel of the health departments recognize the value of the hot mid-day lunch and are ready to render whatever service possible in the promotion and improvement of school lunches. The nutritionist with the State Health Department is available on request of interested school officials, made through their county health officers, for studying school lunchroom problems and

making recommendations to responsible authorities.

The following services are included among the ways workers of the health departments cooperate:

1. Encourage lunchroom service for all teachers and school children where adequate facilities may be made available;
2. Show the need for and the value of this service;
3. Advise persons who are directly concerned with teaching and preparing food for the children. That is: teachers, lunchroom managers, and parents;
4. Broaden and intensify the nutrition and health teaching of the county health personnel in the homes;
5. Assist in preparing nutrition and health education materials, in setting up acceptable standards for lunchrooms and in working out training courses and programs for those intimately concerned.
6. Collaborate in the formulation of rules for sanitation at school lunchrooms;
7. Assist, as circumstances permit, in preliminary inspections of locations for lunchrooms;
8. Advise regarding routine inspections.

PHYSICAL INSPECTIONS OF SCHOOL CHILDREN

Provision should be made in every school program for morning inspection of pupils by the teacher and inspection by the county health officer or nurse periodically or upon call by the teacher. The morning inspection must of necessity be made by the teacher because that is the only authoritative person available for this function. It affords an opportunity for the teacher: to protect each child against participating in the program of the day when this, because of his physical condition, might result in injury to his health; to protect children in so far as possible from exposure to communicable diseases by early discovery of evidence of illness and isolation or exclusion of the children affected; and to observe the child's habits of cleanliness and personal care.

The periodic inspection by the health officer or nurse may be made of all school children as soon as possible after school begins and again following the Christmas holidays. At this inspection the main objective should be the detection of scabies or other contagious skin lesions, pediculosis and any apparent condition that might be contagious

or infectious; teachers are shown how to make morning inspections and informed as to what conditions to look for at these inspections. The type of inspection made by the health officer or nurse when called by the teacher will, of course, depend upon the nature of the service desired. Eighty-nine thousand six hundred and thirty inspections of school children were made last year by county health officers and nurses and thirty-three thousand seven hundred and twenty-three inspections were made by dentists.

MEDICAL EXAMINATIONS OF SCHOOL CHILDREN

One hundred and twenty-four thousand two hundred and forty-nine medical examinations were made of school children last year by the county health officers. The examinations are usually made once during a school year, but owing to the great number of school children only those in alternate grades are examined each year. This means that such examinations are made by the county health officer of most school children every other year and three times during the grade school life of every pupil. It does not mean that we consider medical examinations should be made less frequently than every other year. There may be conditions revealed at the time of examination which would indicate repeated observations within a year. We do not infer that the medical examination made by the county health officer is anything approximating completeness. It does serve, however, to detect physical defects that if not corrected may eventuate into serious physical handicaps.

FOLLOW-UP PROGRAM

Follow-up work in school health activities actually begins with the medical examination itself. The attempt is made to create sufficient interest of the child and parent to bring about correction of defects that will assist the child to reach his maximum in physical fitness. Follow-up work is a close combination of intensive work by the physician, nurse, teacher, and parent.

After the medical examination, parents are notified regarding the findings of the examining physician. Visits should be made by the teacher to the parents of children who are found to have remediable defects that are hampering them or are likely to cause poor health. They are urged to have the family physician see all children who

are affected. The county health nurse will likewise make a visit into the home of each child who was found upon medical examination to have a physical defect. She will urge parents to consult their family physician and get all remediable defects corrected upon his advice. Twelve thousand six hundred and eighty-five field nursing visits and two thousand nine hundred and twenty-eight office nursing visits were made for this purpose last year.

IMMUNIZATIONS

The immunization program of the health department is emphasized at the school. Particular stress is placed upon the importance of smallpox, diphtheria, and typhoid vaccinations. These should be completed prior to entrance in school. Typhoid vaccines should be repeated with three inoculations every third year or oftener if the local situation warrants it. Smallpox vaccination should be repeated every seven years and in case of exposure or undue prevalence of the disease, it should be repeated at once. A successful diphtheria inoculation is usually good for a lifetime. The Schick test for determination of immunity to diphtheria should be used and all children found to have a positive reaction should be administered another inoculation of diphtheria toxoid. Immunization clinics are conducted by the personnel of the health departments and teachers should cooperate to see that arrangements are made to have them scheduled.

COMMUNICABLE DISEASE CONTROL

Health workers are constantly on the alert to locate cases of communicable diseases when they occur, and institute procedures to prevent their spread. Assistance in this important phase of health work is an important part of teacher service. The teacher can and should keep constant watch for signs and symptoms of communicable diseases. This should be done routinely at the time of morning inspection. Every precaution should be taken before a child excluded on account of a communicable disease is allowed to return to school. He should be readmitted only upon the presentation of written notice from the physician in attendance or county health officer signifying there is no longer evidence of communicability of the disease.

OTHER HEALTH SERVICES

The teacher should use common sense and good judgment when any unusual condition arises affecting the health and safety of school children; e.g., in case of fainting, place the patient in a reclining position with head lower than feet, loosen clothing about neck, bathe face with cool water, open windows, and keep crowd away. In case of a broken bone, send for a physician. Do not manipulate or examine site of fracture and keep patient absolutely still. If it is a matter of personal hygiene, the children should be led in a quiet tactful way to make the effort to meet the approved standards of the group with regard to personal habits. A teacher should never suggest treatment except for pediculosis and scabies. The health officer and nurse are permitted to suggest treatment for these conditions and they are usually given blanket authority by the county board of health to treat hookworm infestation.

Further health services in the school include teaching the rudiments of personal and community hygiene to the children. They should know the physiological basis for sound health habits. It should be fixed in their minds that science and not superstition is the foundation for health. They should know that tomorrow's health may depend upon today's preventive measures and health cannot be preserved after it is lost. The practical health worker, when called upon to make a talk before the school, will emphasize the things that are being taught in the regular course of study in physical and health education unless a specific topic is assigned. When this procedure is carried out, remarks will conform to the teaching given in the school program and will serve to augment the health services of the school.

B. F. A.

"While many of the epidemic diseases can be shown to have followed the trade routes in their dissemination and to have been spread by travelers who picked up the disease as they passed through infected districts, the spread of leprosy appears rather to have been affected by permanent migrations of peoples, including the forced migrations of the slave trade, and by the return to uninfected places of groups of persons who had been for many years resident or endemic foci."—Johansen, *Texas State J. Med.*, Jan. '40.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA 1939

	Nov.	Dec.	Estimated Expectancy Dec.
Typhoid	14	4	21
Typhus	44	32	22
Malaria	609	145	109
Smallpox	1	2	2
Measles	20	56	73
Scarlet fever	192	218	135
Whooping cough	90	76	107
Diphtheria	161	143	135
Influenza	497	2911	441
Mumps	13	44	57
Poliomyelitis	6	3	4
Encephalitis	1	1	1
Chickenpox	97	143	158
Tetanus	8	3	3
Tuberculosis	164	245	225
Pellagra	15	12	14
Meningitis	6	6	6
Pneumonia	224	662	398
Syphilis	1443	1366	404
Chancroid	1	3	3
Gonorrhea	316	306	181
Ophthalmia neonatorum	0	0	2
Trachoma	0	0	0
Tularemia	0	1	0
Undulant fever	3	7	3
Dengue	1	0	0
Amebic dysentery	1	2	0
Cancer	142	144	0
Rabies—Human cases	0	1	0
Positive animal heads	8	17	

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years. With the venereal diseases, clinic cases were not included prior to 1936.

Medical News

(Secretaries of county medical societies and other physicians will confer a favor by sending for this section of the Journal items of news relating to society activities.)

The Alabama Sectional, Southeastern Surgical Congress and the Northeastern Division of the Association met in joint session in Gadsden on January 25, with the Etowah County Medical Society and the Holy Name of Jesus Hospital as hosts. The Vice-President of the Division, Dr. R. C. Stewart, Sylacauga, presided. Clinics were held by Dr. R. L. Sanders, President of the Congress, Memphis; Dr. Gilbert F. Douglas, Dr. James S. McLester and Dr. Cecil Gaston, Birmingham; and Dr. Frank K. Boland, Atlanta.

Dr. B. T. Beasley, Secretary-Treasurer of the Congress, addressed the luncheon meeting held at 1:00 o'clock.

* * *

The Southeastern Surgical Congress' Postgraduate Surgical Assembly is to be an event of March 11, 12 and 13 at the Tutwiler Hotel, Birmingham. According to the Secretary of the Congress, Dr. B. T. Beasley,

this is the most intensive postgraduate surgical course given anywhere in the United States, covering every branch of surgery by the nation's greatest teachers. Among those who will contribute to the program are Drs. J. M. Mason and C. N. Carraway, Birmingham; Dr. Quitman Newell, St. Louis; Dr. Louis A. Buie, Rochester, Minn.; Dr. Roy D. McClure, Detroit; Dr. George Pack, New York City; Dr. E. G. Ballinger, Atlanta; and Dr. Cobb Pilcher, Nashville.

* * *

The annual meeting of Region II of the American Academy of Pediatrics, will be held at the Edgewater Gulf Hotel, at Edgewater Park, Mississippi, on Friday and Saturday, March 15 and 16, 1940.

Edgewater Park is located between Biloxi and Gulfport, in the very center of what has been properly spoken of as the Riviera of America. It is on the main line of the Louisville and Nashville Railroad and on the famous Old Spanish Trail (U. S. Route 90), which connects Florida with California. Edgewater Park is a semitropical, winter pleasure community overlooking the Gulf of Mexico, with more than 300 acres of its own premises devoted to outdoor recreation.

An extraordinarily interesting program has been prepared for the scientific session and in addition to clinical papers, a wide variety of roundtable and panel discussions have been planned. Opportunity will likewise be afforded for a delightful recreation on the Gulf Coast during its most attractive season.

In spite of the high quality of service for which the Edgewater Gulf Hotel is famed, the following moderate rates have been quoted for this meeting: \$6.50 and \$7.00 single, \$6.00 and \$6.50 each person in double rooms, daily, American plan.

Region II of the Academy of Pediatrics comprises the southern states from Virginia to Texas and a cordial invitation is extended to any physician to attend this meeting.

It is suggested that reservations be made immediately by writing directly to the hotel.

* * *

Officers of the American Social Hygiene Association call attention to Mrs. Jardine McCree and her associates who through pamphlet distribution following the showing of films "Marriage Forbidden" and

"Body and Soul" leave the impression that they are members of that association. The American Social Hygiene Association states that Mrs. Jardine McCree and her associates are not in any way connected with the association.

* * *

Meeting of the Houston County Medical Society on January 5 honored Dr. M. S. Davie, a long-time member of the society, a former member of the State Board of Censors and present President of the Association. Said Dr. Arthur Keyton, in making presentation of a token of the society's affection: "Dr. Davie, as a token of our esteem, confidence, love and appreciation of you and your long years of loyal service to organized medicine, as a member of the Houston County Medical Society, a member of the Alabama State Board of Health, and in recognition of the honor bestowed upon you by the organized medical profession of Alabama in having elected you as its present President, and to wish you many more years of good health, mental vigor and added opportunity to serve and promote the increasing benefits of the science and art of medicine in the prevention and cure of disease, and relief of suffering in our fellowmen everywhere, the Houston County Medical Society presents you with a traveling case and fitted weekend bag, hoping that you will accept and use it with pleasure and comfort to yourself."

Dr. Davie replied feelingly: "For once in my life words fail me. I am utterly surprised, profoundly affected, and deep feelings of emotion overcome me. I can only say, with all my heart, I thank you. Once, erroneously, I thought one had but to surge ahead on his own steam and power to succeed, but as the years have come and gone time has tempered my ambitions, and experiences have taught me. Now I know that largely by and through our friends and to them we owe our success. I wish each of you at this festive board and every other member to know that I love, respect and appreciate each of you. If I can ever be of help or service to any one of you, you have but to call and if within my power I will respond. If I am spared the years, I hope to prove my appreciation for the confidence that has been bestowed upon me."

Dr. M. Y. Dabney, Birmingham, was guest speaker and discussed the subject, "The Use of Hormones in Gynecology."

* * *

The United States Chapter of the International College of Surgeons held its Fourth Annual Assembly in Venice, Florida, February 11-14. Among the speakers were Dr. Temple Fay, Philadelphia; Dr. Bradley Pat-ten, University of Michigan; and Dr. Warren Davis, Philadelphia.

Book Abstracts and Reviews

Nutrition and Diet in Health and Disease. By James S. McLester, M. D., Professor of Medicine, University of Alabama, Birmingham, Alabama. Third edition, entirely rewritten. Cloth. Pp. 838. Price, \$8.00. Philadelphia and London: W. B. Saunders Company, 1939.

The third edition of McLester's "Nutrition and Diet in Health and Disease" is really a new book rather than a revision of a former edition. Only a few scattered paragraphs here and there remain from older editions. It is an outstanding volume, full of information of practical value in one's daily practice. The first part deals with digestion and absorption of food, its storage and utilization. The daily requirements of the normal individual, including total calories, carbohydrates, protein and fat requirements and the amount of water mineral and vitamins, form a basis for variations from this average diet in the treatment of disease.

The deficiency diseases are described in detail, as is also the diet in diabetes, gout, obesity, leanness, food allergy, fevers, gastro-intestinal diseases, renal diseases and diseases of the nervous system. There are excellent tables of food values.

The profession of Alabama may well be proud that one of our own—a former president of the Association—is author of this book. Just because McLester wrote it is reason enough for anyone of us to want to own it. Our patients will be grateful to us if we make use of the information it contains.

C. K. W.

Synopsis of Pediatrics. By John Zahorsky, A. B., M. D., F. A. C. P., Professor of Pediatrics and Director of the Department of Pediatrics, St. Louis University School of Medicine and Pediatrician-in-Chief to the St. Mary's Group of Hospitals; Fellow of the American Academy of Pediatrics. Assisted by T. S. Zahorsky, B. S., M. D., Instructor in Pediatrics, St. Louis University School of Medicine, and Assistant Pediatrician to the St. Mary's Group of Hospitals. Third edition. Cloth. Pp. 430, with 144 illustrations. Price, \$4.00. St. Louis: The C. V. Mosby Company, 1939.

This volume is characterized by a completeness that is remarkable for a book of its size. It contains a wealth of material for general practitioner and specialist alike. The clinical features of the more common pediatric conditions are stressed and the treatment is emphasized. Only a small space is devoted to the laboratory and x-ray findings on these conditions.

One hundred forty-four (144) illustrations and 9 excellent color plates further enhance the value of the book. As a ready reference for student and practitioner, this work is most suitable. For a more detailed description of pediatric pathology and therapeutics the larger texts are recommended.

The reviewer heartily commends this volume to the attention of all physicians who treat children.

D. B. M.

Accepted Foods, and Their Nutritional Significance, a publication of the Council on Foods of the American Medical Association. Cloth. Price, \$2.00 postpaid. Pp. 512. Chicago: American Medical Association, 1939.

Accepted Foods, and their Nutritional Significance contains descriptions and detailed information regarding the chemical composition of more than 3,800 accepted products, together with a discussion of the nutritional significance of each class of foods. The book provides also the Council's opinion on many topics in nutrition, dietetics and the proper advertising of foods.

This book will be a welcome reference book for all persons interested in securing authoritative information about foods, especially the processed and fabricated foods which are widely advertised. The accepted products are classified in various categories: fats and oils; fruit juices including tomato juice; canned and dried fruit products; grain products; preparations used in the feeding of infants; meats, fish and sea foods; milk and milk products other than butter; foods for special dietetic purposes; sugars and syrups; vegetables and mushrooms; and unclassified and miscellaneous foods, including gelatin, iodized salt, coffee, tea, chocolate, cocoa, chocolate flavored beverage bases, flavoring extracts, dessert products, baking powder, cream of tartar, baking soda, cottonseed flour. There is a suitable subject index as well as an index of all the manufacturers and distributors of food products that stand accepted by the Council on Foods.

Accepted Foods is indispensable for the library of every physician concerned with foods and nutrition.

A. M. A.

Modern Medicine in the United States—Past Achievements and Solution of Present Day Problems. By S. Adolphus Knopf, M. D. (New York University and Paris). Paper. Pp. 40. Livingston, Columbia County, New York. Printed by Tuberculosis Patients at The Potts Memorial Hospital for Rehabilitation.

None other than the bravest of souls and with an accumulated experience of life stretching over a span of more than eight decades would have the temerity to tackle so gigantic a task as that embraced in the above title and to dispose of it in a small brochure of less than 40 pages. For more than fifty years Dr. Knopf has been a most frequent and prolific contributor to the annals of medicine, unlimbering his dynamic brain on all sorts of medical topics which chance to arrest his attention, ranging from a textbook on tuberculosis—his first and real love—to "Eugenics and Birth Control," "Cremation Versus Burial," "Effects of Cigaret Smoking," "The Need of the Hour, a United, Progressive Medical Profession," and the latest one bearing the above title. His

unusual versatility of interest is further attested by the numberless titles and honorary positions which have been heaped upon him during an exceptionally long and useful professional career.

The method resorted to in the publication of this pamphlet is unique and resourceful. In the foreward Dr. Knopf says:

"This essay is too long to appear in one copy of a medical journal and it would suffer in whatever merit it may have by dividing it. I decided to have it printed by tuberculous patients of the Potts Memorial Hospital for Rehabilitation who are skilled printers and able to make it an attractive pamphlet which I wish to send gratuitously to men I know to be interested in the subject."

The opening paragraphs deal, in rather sweeping fashion, with socialised or state medicine and compulsory sickness insurance and group practice, and point out the vital need for preserving the family physician in any changes adopted in this country for the delivery of medical care. Here, too, occasion is taken to point out quite palpable flaws and objections to an elaborate and alluring program promulgated by "The Medical League for Socialised Medicine" and to offer serious objections to the pattern of compulsory insurance advocated for this country by Professor Henry E. Sigerist, of Johns Hopkins University, in his more recent lay publications.

Another section is devoted to the very real evils and difficulties flowing out of the multiplicity of cults and schools in this country, most of whose followers have not had the basic training necessary for one engaging in the healing art. To this rather deplorable situation the author adds another, equally as pernicious; the seemingly irrepressible tendency on the part of the average American toward self-medication and the use of patent medicine. His remedial suggestion here is the all-too-patent one—lay education, coupled with the maintenance, on the part of state licensing boards, of standards sufficiently high to insure protection to the public.

Next follow sections in defense of the American system of medicine and public health practices, bolstered by citations of the very substantial results flowing from such practices; so encouraging, in fact, as not to warrant precipitous or revolutionary experimentation.

The remainder of this brochure is largely given over to a refreshingly ambling and discursive discussion of the gigantic medical and socio-medical problems now confronting this nation as set forth by the President's Technical Committee on Medical Care, commonly referred to as "A National Health Program," and of the proposed National Health Act introduced into the last Congress by Senator Robert F. Wagner, which sought to implement some of the provisions set forth in such National Health Program, but which did not become law. For a "solution" of this many-faceted problem, the author has the following to offer, which, if human ingenuity can contrive the workable machinery, should prove so Utopian as to eliminate many of the difficulties of those now on the medical firing line as well as satisfy a rather exacting and clamorous public:

"The Interdepartmental Committee appointed by the President to coordinate health and welfare should divide into two departments—one for medical care and one for welfare activities. There should be adequate medical care for all who cannot pay for it and social welfare for all who need it. The County Medical Society of the various states should designate the men to care for the indigent sick and the local welfare committee study and, if possible, remove the causes responsible for sickness and social suffering and help toward rehabilitation. Thus, I believe, the cry, "want of adequate medical care everywhere and for all who need it but cannot pay for it," can in my humble opinion be dealt with by the following scheme: There should be a branch of the Central Welfare and Medical Committee in every community. Every individual adult, man or woman, single or married, desiring medical aid immediately or in the future, unable to pay for it, should give his name and address, character of work or employment. His name and address should be given to the local welfare committees or bureaus. Then the bureau of welfare work should put itself in touch with the nearest county medical society, or, if advisable, with the public nurses association. The medical and nurses' committees should alternately appoint from the ranks of the parent associations, a number of physicians and nurses to take care of a corresponding number of the population who have registered with the local welfare committee. The work of medical practitioners selected either for a 3 or 6 months duty should examine every individual applying for immediate or future free medical treatment. This examination of every individual should be primarily for tuberculosis, syphilis, gonorrhea, other infectious diseases, mental conditions, and, of course, in pregnant women examination to assure a normal delivery. If the woman is overworked and outworn by frequent pregnancies, she and her husband should be informed of the seriousness of the situation, be instructed accordingly, and be content with the number of children already in the family. This information is necessary in the interest of the parents, the children, and the community and country at large. I am happy to be able to quote for this injunction no less an authority than the first lady of the land, Mrs. Franklin D. Roosevelt, who publicly declared: 'Children have a right to demand of government that they shall start life without being conditioned to failure before they are born.' The condition of the new born baby and of the existent children in the family should all be examined and treated if necessary. All applicants should be also examined and treated for their dental condition. It is for the American Dental Association to assume these responsibilities. The remuneration of the general practitioners, specialists, and dentists on duty in office, hospital, or on sick calls, should be agreed upon by the local medical and dental associations aided by federal funds when evidence for its needs is established. There are vast areas with a relatively small number of population; they may have little or no medical care and may be without hospital or clinical facilities. As already indicated when discussing Socialized Medicine, physicians

with little or no practice but ample experience, recent graduates who have had sufficient internship willing to go to those sections of the country, should be financially subsidized by federal funds until their earnings will enable them to support themselves and their families. If in any of these sections hospitals are actually needed, the government will build them on advice of the local physicians. Traveling clinics should reach absolutely isolated districts at regular intervals and do the best they possibly can in the prevention and cure of diseases which the inhabitants may be afflicted with."

J. N. B.

Psychobiology and Psychiatry. A Textbook of Normal and Abnormal Human Behavior. By Wendell Muncie, M. D., Associate Professor of Psychiatry, Johns Hopkins University; Assistant Psychiatrist, Henry Phipps Psychiatric Clinic, Johns Hopkins Hospital. With a foreword by Adolf Meyer, M. D., LL. D., Sc. D., Henry Phipps Professor of Psychiatry and Director of the Department of Psychiatry, Johns Hopkins University. Cloth. Pp. 739, with 69 illustrations. Price, \$8.00. St. Louis, Mo.: The C. V. Mosby Company, 1939.

It is becoming increasingly manifest that many human beings, in their attempts to cope with the pressing problems of everyday life, are succumbing to life's stresses and strains with the result that the nervous system and emotions are strained beyond their capacities. New medical problems are therefore being created which the general practitioner can no longer afford to ignore; neither can he treat lightly the neurotic, the neurasthenic and others of this type with their long list of complaints. For to understand these mentally ill individuals, the same attack as for physically ill persons must be utilized ere rational treatment can be undertaken.

Doctor Wendell Muncie is a man well qualified and well versed in both the academic and practical aspects of psychiatry. Being in charge of the Henry Phipps Psychiatric Clinic, Johns Hopkins Hospital, he has had ample opportunity to study human wrecks in all gradations and to treat them as well. In order that his work be not considered didactic, he has sprinkled his discussions with appropriate case histories which are thoroughly worked up. Being a sincere worker he cites his failures as well as his successes indicating that limitations are present in the field of psychiatry also.

In part I, he discusses the historical and philosophical bases of psychiatry and psychobiology. He attempts to show that the person is not merely the sum of the anatomy and physiology data of his various organs and systems but that he is an integrate who is creating a life record of biography by living, feeling, thinking, acting, remembering, anticipating and doing; and that this integrated organism is not fully predictable upon an anatomic and physiologic basis.

Part II is devoted to abnormal behavior in which he discusses the general principles of pathology, examination methods and the principal reaction types. In part III he deals with the general bases of treatment of the various abnormal behaviors as well as with the treatment of the individual disorders themselves. The treatment is based on sound scientific reasoning. In part IV he gives a historical survey in biblio-

graphy of the development of the concepts underlying the principal reaction sets, excluding the organic deficit states.

The volume is well indexed and the subject matter stripped of much confusing detail and is well presented. The print is large and easily read. The reviewer feels that if the student as well as the general practitioner reading this book begins to appreciate the problems of psychiatry, he will derive much in the way of knowledge and will better understand the complex human organism which it is his privilege to treat.

H. J. C.

Syphilis and Its Accomplices in Mischief: Society, The State and The Physician. By George M. Katsanos, M. D. Paper. Pp. 676. 11 Appendices. Privately printed at Athens, Greece.

This book on syphilis is written more for the layman than for physicians. The subject is discussed from many angles.

W. H. Y. S.

Supervision in Public Health Nursing. By Violet H. Hodgson. Cloth. Price, \$2.50. Pp. 376. New York: The Commonwealth Fund, 1939.

This book, the first on supervision in public health nursing, meets a real need in this field. It should be valuable for formal classroom instruction, and as a guide for the new and experienced supervisor. Administrators will find it helpful, especially the chapters dealing with "Administration and Supervision" and "Specialized Supervision."

The philosophy, principles, organization, functions and methods of supervision are presented in an orderly concise manner. There seems to be confusion in the minds of some people as regards the functions of supervision. This confusion is probably the result of the carry-over from hospital relationship and the old idea of autocratic supervision. The discussion of the administrative and teaching functions of supervision should do much to clear up this confusion.

Chapter XIV on "New Staff Nurses and Affiliating Students" should be welcomed by organizations who are being pressed with demands for providing student experience. This chapter defines the objectives of student affiliation and discusses factors which a public health nursing organization should consider in offering student experience in public health nursing.

The entire book presents the ultimate goal of supervision as "the maximum development of the nurse into the most competent person professionally, she is capable of becoming" so that better service to the patient, family and community will be realized.

P. B.

NEXT MEETING
OF THE ASSOCIATION
BIRMINGHAM
APRIL 16-18, 1940

CALORIE COMPUTATIONS



S. M. A. is easy to prepare. Simply dilute according to directions (furnished to physicians), adjust to proper temperature and feed.

It is not necessary to modify S. M. A. for the same reason that it is unnecessary to modify breast milk.

S. M. A. is economical and easy to prepare.

NORMAL INFANTS RELISH S. M. A. — DIGEST IT EASILY AND THRIVE ON IT

S. M. A. is a food for infants—derived from tuberculin-tested cow's milk, the fat of which is replaced by animal and vegetable fats including biologically tested cod liver oil; with the addition of milk sugar and potassium chloride;



altogether forming an antirachitic food. When diluted according to directions, it is essentially similar to human milk in percentages of protein, fat, carbohydrate and ash, in chemical constants of the fat and in physical properties.

S. M. A. CORPORATION • 8100 McCORMICK BOULEVARD • CHICAGO, ILLINOIS

Miscellany

WARN OF LEAD POISONING RISK TO CHILDREN FROM TOY DISHES

PENNSYLVANIA AUTHORS REPORT A CASE OF
ACUTE ILLNESS DUE TO DRINKING AND
EATING FROM SUCH UTENSILS

A warning of the dangers that may accompany the use of toy dishes is contained in the report of a case of acute lead poisoning attributed to such toys by Thomas K. Rathmell, M. D., and Frederick L. Smith 2d, Ph.D., Norristown, Pa., in *The Journal of the American Medical Association* for Jan. 20.

Their patient, a child of 22 months, became ill after eating and drinking from supposedly aluminum toy dishes. Analysis of some orange juice from the toy teapot and an unused toy cup showed an appreciable amount of lead. The acids of the orange juice, the authors say, extracted the lead from the dishes.

"It was determined that the toy dishes were manufactured in the United States, but absence of other labels prevented further identification," the physicians state. "Fortunately no serious effects have resulted to date from the acute poisoning. However, as long as there are no statutes to prevent the use of lead compositions in the manufacture of children's toys and reputable department stores will offer such goods for sale, it is essential for physicians to recognize the harmful potentialities of toy dishes and appreciate acute lead poisoning as one of the factors in the acute abdominal conditions of children.

"The dishes (represented and labeled as of aluminum composition) were presented to the child in time for the evening meal and were immediately used as containers for it.

"Four hours after this meal the child was awakened from sleep by sudden forceful vomiting of all foods consumed at the evening meal. The following day recovery was complete, except for weariness."

A. M. A. JOURNAL REVIEWS CONFERENCE WITH PRESIDENT ON HOSPITAL PLAN

"On invitation of President Franklin Delano Roosevelt, the committee appointed by the House of Delegates of the American

Medical Association to confer with federal representatives relative to the proposed National Health Program visited the White House in Washington to discuss the plan for the construction of hospitals with federal funds, first suggested by the President Dec. 21," *The Journal of the Association* for Jan. 20 states in an editorial.

"Representing the American Medical Association on this occasion were the chairman of this committee, Dr. Irvin Abel, and as members Drs. Walter F. Donaldson, Frederic Sondern, Walter E. Vest, Fred W. Rankin and Edward H. Cary and Dr. Austin A. Hayden, appointed by the Speaker of the House to take the place of Dr. Henry Luce, who was ill and unable to attend. Also in attendance to represent the Association were Drs. Olin West, secretary; R. G. Leland, of the Bureau of Medical Economics, and W. D. Cutter, of the Council on Medical Education and Hospitals. At the same time there were in attendance representatives of the American, Catholic and Protestant hospital associations, including Monsignor Griffin, Father Schwitalla, Fred Carter, Dr. Bert W. Caldwell and Rev. Paul R. Zwilling. Included also at the conference were Surgeon General Thomas Parran and Dr. Joseph Mountin, of the U. S. Public Health Service, and Surgeon General Ross McIntire, of the Naval Medical Corps.

"It is reported that the President indicated again his belief that it is not desirable to enact a program with the cumbersome and expensive aspects of the National Health Program or the Wagner Health Bill, S. 1620, and also that he indicated his belief that the technic of grants-in-aid with matching appropriations might not serve to be helpful to the very areas most requiring assistance. Furthermore, it was the President's proposal that the federal government should erect the necessary hospitals but that the requests should come from the areas needing the hospitals and that they should be locally supported and administered. The President also emphasized the experimental and necessarily limited character of this program.

"Previous to the conference with the President, the representatives of the medical profession and of the hospitals in attendance had conferred and prepared a memorandum on the situation, which was left with the President. This memorandum follows:

"1. Hospitals to be built only where need for same can be shown. Advisory consultation in the determination of such need to be given by the state medical and hospital associations, the state health department and the county judges or officials of the counties in which such hospital services are proposed.

"2. Size of hospital to be commensurate with the needs of the community and the ability of the latter to support it.

"3. Means for the maintenance and upkeep of such hospitals rank in importance equal to that of construction.

"4. Since the important objective of the program is the service it can render, hospital construction and administration, equipment, staff and personnel should meet the standards which the American Medical Association, the American College of Surgeons and the hospital associations regard as minimal for rendering such service in the various localities. Where needed, since highly specialized facilities and personnel cannot be made available in all places, affiliation with larger hospitals or hospital centers to be had to the end that highly specialized services for diag-

nosis and treatment, be made available to all.

"5. Maintenance of a standard of professional and hospital service that will keep it efficient and prove attractive to qualified men and women as a career.

"6. Utilization of existing facilities where possible: Under no circumstances should the program be allowed to develop into competition with the voluntary hospitals but should rather foster cooperation between the two groups.

"7. Many small communities can be better served by the utilization of bed vacancies in available existing institutions than by the construction of new hospitals, transportation and per diem expense to be borne by state and/or county funds. Where state and/or county funds cannot be provided, expense to be met by, and to be dispensed by, local agencies.

"Ambulance service and good roads will permit this type of service to operate safely, efficiently and economically in communities not financially able to support a hospital."

SILVER PICRATE

Wyeth

Has shown a CONVINCING RECORD* OF EFFECTIVENESS in ACUTE ANTERIOR URETHRITIS

**due to *Neisseria gonorrhoeae* • *Trichomonas vaginalis*
*Monilia albicans***

Silver Picrate is a crystalline compound of silver in definite chemical combination with picric acid. Dosage form for use in anterior urethritis: Wyeth's Silver Picrate Crystals in an aqueous solution of 0.5 percent.

Supplied at all pharmacies in vials of 2 grams

Complete literature on Silver Picrate as used in genitourinary and gynecological practice will be mailed on request.

*"Treatment of Acute Anterior Urethritis with Silver Picrate," Knight and Shelanski, AMERICAN JOURNAL OF SYPHILIS, GONORRHEA AND VENEREAL DISEASES, Vol. 23, No. 2, pages 201-206, March, 1939.

JOHN WYETH & BROTHER, INCORPORATED, PHILADELPHIA, PA.

PARKE-DAVIS

THEELIN

Two Hundred Published Reports

Two hundred and fifteen reports on Theelin and Theelol have appeared in the medical and other scientific journals of this country alone. A substantial portion of references to estrogenic therapy have been based on the use of these original products.

Ten Years' Clinical Experience

Ten years' clinical experience with Theelin and Theelol has familiarized the physician with the therapeutic applications of these products. It has thoroughly established their use in modern medical practice.

Millions of Doses of Theelin

Millions of doses of Theelin have demonstrated its clinical value. They have also indicated the confidence of the medical profession in the original product—the first estrogen to be isolated in pure crystalline form, the first pure estrogen to be used clinically, the first to be reported in medical literature.

Theelin (ketoxyhydroxyestratriene) is available as Theelin in Oil Ampoules in potencies of 1000, 2000, 5000, and 10,000 international units each, supplied in boxes of six and fifty 1-cc. ampoules. Theelin Vaginal Suppositories, 2000 international units each, are supplied in boxes of six and fifty. Theelol (trihydroxyestratriene) is available as Kapseals Theelol in three strengths, 0.06 milligram, 0.12 milligram, and 0.24 milligram—supplied in bottles of 20, 100, and 250.

PARKE, DAVIS & COMPANY, *Detroit, Michigan*

THE JOURNAL

of

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Published Under the Auspices of the Board of Censors

Vol. 9, No. 9

Montgomery, Alabama

March 1940

TREATMENT OF CORONARY ARTERY SCLEROSIS*

By

MORRIS M. WEISS, M. D.
Louisville, Kentucky

The treatment of coronary artery sclerosis can only be the management of its clinical manifestations. The present state of our knowledge of the cause of arteriosclerosis prevents practical discussion of the prevention of such sclerosis as it affects the coronary vessels. The treatment, however, of the distressing symptoms of coronary disease is encouraging in that such symptoms can often be subdued to a subclinical level. This paper will discuss only the therapy of the three major clinical manifestations; namely, angina pectoris, coronary occlusion and acute paroxysmal dyspnea (cardiac asthma).

ANGINA PECTORIS

The treatment of angina pectoris can be conveniently separated into the prevention of attacks and the treatment of the seizure.

To prevent an attack the best program to follow is to have the patient live below the level of physical and mental activities which are known to precipitate pain. Obviously this may require a complete readjustment of the patient's daily routine. Frequent rest periods are very beneficial. Several weeks in bed will often subsequently allow activities which previously caused an attack. The patient should be warned about walking against a cold or vigorous wind. The habit of lying down after each meal should be cultivated. Alcohol, coffee and tobacco should be restricted. All gastro-intestinal disturbances, particularly flatulence, must be corrected. If the patient is obese, the caloric

intake should be reduced. An attempt should be made to stabilize the emotional and mental attitude of the patient towards his illness. None of the drugs commonly used, such as aminophylline and theocalcin, effectively control the frequency and severity of the spontaneous attacks or lessen the amount of effort usually required to produce an attack. Sedatives are particularly valuable in the individual whose attacks are precipitated by emotional stimuli. They also subdue those patients who tend to be overactive. Paravertebral injections of alcohol will successfully abolish anginal attacks in some cases but should be reserved for those patients who have numerous attacks every day which do not enable them to perform any kind of work. Attempts through surgery to improve the blood supply to the heart and thus lessen the likelihood of angina occurring are still in an experimental stage. If there is associated diabetes, it must be regulated, with the use of insulin when necessary. While mild overdoses of insulin have been known to cause attacks of angina pectoris and even a coronary occlusion, this is certainly not common. It has been suggested that elderly individuals do better if their diabetes is not too vigorously treated. Anemia, if present, should be corrected and the physician should be mindful of a coincidental hyperthyroidism.

When an attack of angina occurs, nitroglycerine, 1/150-1/100 grain, is the drug of choice and can invariably be relied on to relieve the attack. Occasionally 1/50 gr. is required. Nitroglycerine is to be preferred over amyl nitrite which has an annoying odor, is difficult for self-administration and is not more effective. A tablet is commonly placed under the tongue but it also can be chewed. Relief is usually obtained in a few minutes. The cerebral effects which some patients have when nitroglycerine is taken

*Read before the Fourth Annual Meeting of the Gulf Coast Clinical Society, Mobile, October 27, 1939.

in the erect position usually quickly disappear on recumbency. Patients should be cautioned not to use more than two or three tablets in an attempt to stop an individual attack. If three tablets at the most over an half an hour are not effective, a coronary occlusion has probably occurred and in this condition nitroglycerine is contraindicated. Since the duration of action is transient, as many doses of the drug can be given in 24 hours as there are anginal attacks. There are no ill effects from prolonged use of the drug. When a patient has many attacks a day, it has been suggested that a very small dose, 1/400 or 1/500 grain, be taken every hour or two throughout the day. This has not been very effective in my experience. Moreover, the patient soon tires of taking medicine so frequently. If a certain effort invariably produces an anginal attack, it can rationally be suggested that a tablet of nitroglycerine be taken just before that effort. Unfortunately some patients take advantage of this prophylactic value of the drug and ignore their carefully outlined program of physical and mental rest. Whiskey, aromatic spirit of ammonia, chloroform and ether are good emergency substitutes for the nitrites. Attacks of angina occurring during sleep are difficult to control. Sufficient sedatives to produce restful sleep seem to be effective in some cases. I have not found, as suggested, that erythrol tetranitrate at bedtime is beneficial.

ACUTE CORONARY OCCLUSION

The first drug to consider immediately in an acute coronary occlusion is morphine and this must be given hypodermatically in doses large enough to relieve the pain. The pain may be so severe as to require the intravenous route. There should be no hesitancy about using sufficient morphine. Codeine can be used for the residual substernal discomfort after the acute pain has subsided. The nitrites are contraindicated. It is important to remember that there is often an early rise of blood pressure in a coronary thrombosis which must not be confused with a similar rise of pressure that may occur in an attack of angina pectoris. I have not found that aminophylline intravenously, as recommended, relieves the pain. Should there be coincident pulmonary edema, atropine sulphate from 1/10' - 1/50 gr. at regular intervals is valuable.

If the patient is in shock, with the blood pressure falling to a systolic level of 90-80 (especially if there was a previous hypertension), the intravenous use of caffeine sodium benzoate, 7½ grains, may be life-saving. Hypertonic glucose is also very valuable at this time but there is no advantage in its continued use. Unless Stokes-Adams seizures are present, I have been very hesitant about the use of epinephrine for the shock state. The immediate use of the xanthines, such as aminophylline, either orally or intravenously, has no apparent benefits. The only exception is the presence of Cheyne-Stokes respiration. To abolish this periodic respiration which may be very distressing, the intravenous administration of aminophylline in doses of 3¾ to 7½ gr. is almost specific. During this acute stage, oxygen, especially if dyspnea and cyanosis are present, is very beneficial. The hyperglycemia and glycosuria which often occur early in the attack in non-diabetic individuals are transient and do not require treatment. Even if the patient is a known diabetic, high blood sugars during this acute stage can be ignored.

When the shock state has subsided, only general symptomatic care is instituted. Absolute bed rest must be enforced. Strenuous bowel actions are to be avoided. Fluids, unless there are other indications, should be moderate in quantity. A diet that is easily digested and of relatively low caloric value is in order for several weeks.

If congestive failure occurs at any time after the occlusion, digitalis can be prescribed, in addition to the usual fluid and salt restriction. One must be especially alert for signs of over-digitalization. The mercurial diuretics also may be used, even during the early days of the attack.

The use of quinidine in anticipation of cardiac arrhythmias is left to the discretion of the individual physician. Should any of the paroxysmal tachycardias appear, quinidine in the usual dosage is indicated. Fortunately the arrhythmias are often transitory. Should persistent auricular fibrillation be resistant to quinidine, digitalis must be used, even shortly after the onset of the occlusion, to slow the ventricular rate. Quinidine can then be administered in an attempt to restore regular sinus rhythm. Heart block, unless Stokes-Adams seizures occur, requires no treatment.

In the absence of complications, notably congestive failure, a minimum of six weeks bed rest is usually required. The patient should then gradually become ambulatory. I have found that a rapid sedimentation rate alone is no contraindication to such a program. During this stage of convalescence, tonics, a high vitamin diet and massage improve the general strength and give the patient a sense of well-being and contentment. Because quinidine can experimentally prevent ventricular fibrillation, which is probably the chief cause for sudden death in coronary disease, it has been recommended that it be given as a routine after a coronary occlusion. It is obviously difficult to determine its value in preventing sudden death but I have seen no harm in its routine use.

The problem of subsequent activity for the individual who has suffered a coronary thrombosis is best discussed by my answers to a questionnaire which was submitted through a committee of the American Heart Association. The questions and answers are as follows:

Q. Is every man who has sustained coronary thrombosis totally and permanently disabled?

A. No.

Q. Following coronary thrombosis, what is the approximate percentage of patients that you permit an attempt at partial or complete resumption of activity?

A. About 75 per cent.

Q. What are your criteria for determining whether such patients should attempt this resumption of activity?

A. Type of work; mental attitude of patient towards forced inactivity; symptoms of heart failure—anginal or congestive—produced by effort.

Q. In a patient who has recovered from coronary thrombosis but has angina of effort, do you or do you not make definite efforts to prevent his developing chronic invalidism?

A. I do make definite efforts to prevent his developing chronic invalidism.

Q. Is it your opinion that the life of a patient who has recovered from coronary thrombosis is shortened by effort which causes no cardiac symptoms?

A. Severe sudden effort should be avoided.

Q. Do you think that a return to business or profession with some modification of ac-

tivity exerts any unfavorable influence on the course of coronary disease, such as increasing the tendency to further coronary occlusion or shortening the life expectancy?

A. Yes—if it was determined that any phase of that business or professional life was a factor in causing the first thrombosis.

Q. If a patient recovers from coronary thrombosis and has no cardiac symptoms, how soon should he be permitted to return to business or professional activities?

A. In 2 to 3 months at the earliest if he needs to earn a living.

Q. Should patients who have recovered from coronary thrombosis be allowed to drive automobiles?

A. Yes, if the patient is not an excited driver, avoids arguments with traffic policemen and other drivers, does not attempt to fix tires, etc., and also if there are no signs or symptoms of failure.

Q. Should patients who have satisfactorily recovered from coronary thrombosis be allowed to work if their occupations are those covered by industrial law?

A. Yes—provided the employer is protected. The patient should not claim that strain of his work caused any subsequent heart symptoms.

Q. What symptoms or signs following coronary thrombosis should be regarded as indications of total disability?

A. Symptoms and signs of heart failure—congestive or anginal, particularly if the anginal type of failure occurs at rest.

ACUTE PAROXYSMAL DYSPNEA

Morphine is life saving and frequently is the only medicine required. The patient should be propped up high in the bed. If pulmonary edema is present, atropine sulphate, 1/50 grain, should be used every three to four hours. Hypertonic glucose alone has abolished attacks in an occasional case. Aminophylline given intravenously may also be of help. Adrenalin has been recommended when sibilant rales predominate in the lungs, but I found that it made the patient worse in the few instances in which it was used. Binding the extremities by various means has theoretical value. Should pulmonary edema be persistent, a venesection may have to be done. Rapid digitalization is also in order. The subsequent management is that for heart failure in general. The mercurial diuretics given at regular intervals may allay recurrences.

How should we treat the individual who has asymptomatic coronary sclerosis? Suppose, during a careful periodical physical examination, the electrocardiogram showed partial heart block, defective intraventricular conduction defects or even bundle branch block which were considered the result of coronary sclerosis? Or suppose the fluoroscope revealed calcification of the coronary vessels? There is little that can be done to prevent the progress of coronary disease. I have discussed what can be done to prevent some of the distressing clinical manifestations but these measures, as far as we know, do not alter the usual progressive course of the arteriosclerosis. Attempts, through surgery, to create a new blood supply to the heart to improve collateral coronary circulation are still in the highly experimental stage. We still await a program which will appreciably promote longevity in the presence of clinically silent coronary disease.

ABNORMAL UTERINE BLEEDING*

By

LEE F. TURLINGTON, M. D.
Birmingham, Ala.

In so short a time as is allowed for this discussion it is impossible to go very deeply into any phase of abnormal uterine bleeding. My real purpose is to emphasize three important points:

1. The duty of the physician to impress his patients with the importance of a periodic check-up examination, for the purpose of diagnosis of early cancer.
2. The indications for diagnostic curettage.
3. A simplified outline of therapy for functional uterine bleeding.

No apology is made for presenting a paper on this subject even though no original ideas are advanced. Cancer of the uterus is still too often neglected until the condition of the patient is hopeless. The patient herself is, of course, most often at fault but too frequently a patient is seen who has been given a false sense of security by her doctor who has not made an adequate effort to make a diagnosis.

Certain acute infectious diseases may cause abnormal menstrual flow. As a rule this is a complication of little consequence.

Several constitutional diseases may cause excessive menstrual flow but of these syphilis is the only one that causes sufficient uterine bleeding to give the patient any real alarm. Certainly any patient with abnormal uterine bleeding should have a routine Wassermann and Kahn test.

Pulmonary tuberculosis, heart disease, cirrhosis of the liver and some other organic diseases may give rise to uterine bleeding.

The more serious types of abnormal uterine bleeding are divided by Emil Novak into those of anatomic origin and those of functional origin.

ANATOMIC CAUSES

The most serious anatomic cause is cancer of the uterus. Cancer of the cervix, occurring about ten times as frequently as cancer of the fundus, is found most frequently on the vaginal surface of the cervix. Cancer found in this area is of the squamous cell variety. Adenocarcinoma of the cervix is practically always found in the canal. Carcinoma of the cervix, because it is more subject to trauma from coitus or extreme exertion and for this reason bleeds in the early stage, and because it can most often be seen with the eye through a speculum, is more easily diagnosed in its early stage.

Carcinoma of the fundus of the uterus does not bleed so early as carcinoma of the cervix but on the other hand, also because of its locality, does not metastasize so early. The first symptoms are abnormally prolonged menstrual periods, intermenstrual spotting and not uncommonly a watery or thin mucoid vaginal discharge.

Cancer has advanced as the cause of death from sixth to second place since 1900. The mortality rate from this disease has increased, since then, sixty-five per cent—or approximately a two per cent advance each year. Of course the increase of the life span, through preventive medicine, has brought a larger proportion of people to the so-called cancer age.

The activities of the American Society for the Control of Cancer, the cancer commissions of various state medical associations and organized medical groups of all sorts have done much to bring the patients with cancer to the doctor at an earlier stage of the disease. Many lay organizations, principally women's clubs, are becoming more active constantly. They are seeking to make the

*Read before the Association in annual session, Montgomery, April 18, 1939.

laity cancer conscious, and are encouraging them to apply for physical examinations at regular intervals. The challenge is presented to the medical profession as never before to do its part in control of cancer. Most of us, I think, are a little inclined to be careless about our obligation to our patients in this respect until some startling sequence of events brings it forcibly to our attention. Seeing four hopeless cancers of the cervix in as many weeks about five years ago induced me to resolve to advise every new patient of the importance of periodic check-up examinations. Thus far I have lived up to the resolution and it is surprising to know how many will heed the advice. When we remember that 97 per cent of cancers of the cervix occur in parous women and 3 per cent in nulliparous women, who have a history of previous cervicitis, we are forced to realize that cancer of the cervix is, to a large extent, a preventable disease. It has been estimated that 75 per cent of parous and 25 per cent of nulliparous women have cervicitis. Patients seen at regular intervals may be caught in this possibly precancerous stage and cured with simple cauterization, or conization with the diathermy knife. I advise my parous patients below the age of thirty-five to be examined once yearly and those past that age twice yearly. I insist that it is worth while to see those in the cancer age twice yearly because, while it is said by some that carcinoma of the uterus is sometimes exceedingly slow in growth in its early stages, most experts testify that six months after it is recognizable it has advanced to the third or fourth stage, which stages are hopeless. Nulliparous or unmarried women should have yearly examinations after the age of thirty.

Benign polyps of the cervix or fundus of the uterus are frequently encountered as anatomic causes of abnormal uterine bleeding. They may cause metrorrhagia but more frequently cause menorrhagia. The removal of the fundus polyp during diagnostic curettage, even though it be removed in such small sections that it cannot be recognized as such, is undoubtedly the explanation for the occasional permanent cure from curettage.

Uterine myomata or adenomyomata cause more uterine hemorrhages than all the other tumors. These, fortunately, can most frequently be diagnosed by bimanual palpation.

Occasionally a submucous fibroid, so small that it cannot be outlined by the palpating hands, will cause a severe bleeding. This can almost certainly be distinguished as an irregularity on the inner wall of the uterus during curettage.

Acute or subacute pelvic inflammatory disease most often causes excessive menstrual flow and abnormal prolongation of the flow. The diagnosis from the history and examination is not difficult.

Retained gestational products are probably the most common anatomic cause for abnormal uterine bleeding.

In *hydatidiform mole* the grape-like particles seen in the discharge from the uterus make the diagnosis simple.

Chorionepithelioma, which fortunately is extremely rare, can be diagnosed from the history of the case, study of pathologic preparations and the extremely sensitive reaction of the Friedman rabbit test for pregnancy.

Ectopic pregnancy, which formerly was the cause of so many deaths among young women, can now be diagnosed quite often before rupture of the tube. The finding of a mass in either adnexal region, with a history of delayed menstruation and irregular blood spotting, is most suggestive. If the Friedman test for pregnancy, which is indicated here, is positive, the diagnosis is practically certain.

Cervicitis, with erosion or with an everted fragile cervical mucosa, often causes bleeding for the same reason that cervical cancer does, and should be most carefully differentiated from cancer. Biopsy should be resorted to in case of any doubt.

Senile vaginitis is sometimes joyfully found, on examination with a speculum, to be the cause of a blood stained vaginal discharge which has caused both the patient and the doctor much alarm.

Occasionally *senile endometritis* is encountered as a cause for uterine bleeding.

Tumors of the ovary, perhaps in proportion to the engorgement caused in the pelvic vessels, may cause excessive flow and prolongation of the menstrual period. The granulosa cell tumor is one type of ovarian tumor, however, that produces a functional type of bleeding. Its cells secrete a real estrogenic hormone which causes a hyperplasia of the endometrium. When it occurs after the menopause, a recurrence of the menstrual periods may be brought about.

An interesting case is that of a patient who who operated on by me a month ago. She came complaining of bleeding from the vagina between periods and of flooding during menses. Although she was sixty years of age, she appeared to be forty. The menopause came abruptly and without complication at the age of fifty. At fifty-five she started menstruating normally again. Soon some irregularities of the periods were noticed and these became more and more marked until the date of the operation. A pelvic tumor was found on examination, which was diagnosed as granulosa cell tumor of the ovary. The histologic picture presented by the cut section was typical of the Brunner tumor; but since no Brunner tumor has been reported to have elaboration of estrogenic hormone, and since this tumor gave clinical evidence of such action, we have not yet classified it satisfactorily.

Every one will admit that any patient having a vaginal discharge should have an examination with a vaginal speculum. If the discharge should show evidence of blood, such an examination is mandatory. This examination will frequently be adequate to explain the bleeding. Vaginitis, with ulceration of the vaginal mucosa, cervicitis with eversion or cervical polyps can be easily diagnosed and dealt with. A cervicitis with a suspicious area of mucosa or a suspicious growth can be biopsied.

Abnormal uterine bleeding, with no obvious cause, must be explained because of the possibility of its origin being a carcinoma. The explanation should be made as soon as possible in order to lose no time in the treatment of those cases in which the bleeding does come from carcinoma. A diagnostic curettage will most often give a satisfactory explanation for the bleeding.

One might outline the indications for a diagnostic curettement. The following are absolute indications:

1. Any case, of whatever age, having frequent or infrequent vaginal discharge showing evidences of blood, in which the reason therefor is not obvious on examination.

2. Any case of uterine bleeding in a patient nine months after what has been presumed to be the last menstrual period of the menopause. Within nine months a normal menstruation may occur. If the bleeding at any time during those nine months should

not appear to be normal, the patient should be curetted.

3. Any case of what has been presumed to be functional bleeding that has not yielded to treatment within three months.

4. Spotting of blood or any bleeding after the first menstruation following a miscarriage.

5. Any uterine bleeding after eight weeks following a normal or an abnormal delivery of a baby, unless one can be certain that the cause is subinvolution. If, after treating the patient for subinvolution for as much as two months, she is still bleeding, a Freidman test should be made to rule out the possibility of chorionepithelioma. If the treatment for a presumed subinvolution is not effective within two and a half to three months, the case should be further investigated by the examination of curettings.

Functional uterine bleeding is that for which no anatomic cause can be found. Formerly it was spoken of as "idiopathic." Through study of the physiology of the ductless glands, a satisfactory explanation has been found and a more or less satisfactory treatment has been discovered. A preponderant folliculin or estrogenic hormone and an insufficient luteinizing hormone account for the bleeding.

That a given case of uterine bleeding is functional in origin should be thoroughly established before any therapy is proposed. A carefully taken history and a painstaking general examination, and in some instances a diagnostic curettage, should enable one to eliminate any of the anatomic causes.

By careful estimation of the basal metabolic rate, the specific dynamic test and the galactose tolerance test, one can determine fairly well whether the bleeding is a symptom of dysfunction of the ovary, the thyroid or the pituitary glands. Of course these tests are misleading unless accurately carried out. It is difficult to obtain a basal metabolic rate that is inaccurately low. On the other hand, frequently the rate obtained is inaccurately high because the patient has not been brought to a basal state before the test is made, or not kept in such a state during the test.

Kurzok makes the statement that "practically every case of functional uterine bleeding can be controlled by pregnancy urine extract (meaning the A. P. L. hormone), provided the dosage is adequate. He

recommends the administration of 200 to 500, and in extreme cases 750, rat units given in one, two or three doses daily during active bleeding and 200 rat units once or twice a week for several weeks or months thereafter. I believe that this statement is correct as regards young girls and women up to near the menopause but in the latter class I have had frequent failures.

There is no doubt but that thyroid administration helps tremendously when the basal metabolic rate is found definitely low; and even when it is found moderately low it is permissible to try thyroid, given very cautiously, with a definite chance of helping in the control of functional bleeding. When a hyperthyroidism is found, which has been rare in my experience, rest, iodine and sedatives are indicated.

As yet I do not know of a satisfactory actual anterior pituitary product but we should have such a product in the near future.

The patient who does not yield to a thorough trial of the conservative treatment is truly a terrible problem.

Castration by the removal of the ovaries or by destroying them with radiation will surely cure the bleeding. Bilateral oophorectomy is no longer resorted to. Those of you who have had experience with young women who have been either deliberately or inadvertently castrated by radiation do not require a warning against this method. The amount of ovarian tissue that a patient has cannot be determined. A woman who has a small amount of ovarian tissue may be castrated with a dosage of radiation that would have only an inhibiting effect on one with a larger amount. A patient at or near the age of the menopause should certainly have radiation therapy. Recently in a small group of gynecologists, most of whom were teachers as well as clinicians, I asked them individually the age limit of the patient to whom they would give radiation rather than do a hysterectomy for uncontrollable functional bleeding or bleeding from myomata. All agreed that they would not radiate a patient younger than 40 or 42.

After hysterectomy or radiation treatment most of these patients will present an endocrinopathy that requires most careful treatment.

The cause of every abnormal condition of the uterus should be ascertained as early as

possible. Those cases caused by cancer can be cured only by early treatment. The challenge to the medical profession for control of cancer can be met only by the family doctor who must convince those, whose lives he is responsible for, of the necessity for periodic check-up examinations; and it is he who must make them and they must be adequate.

THE HARD OF HEARING PATIENT

RECENT ADVANCES IN TREATMENT

By

E. R. NODINE, M. D.

Andalusia, Ala.

The problem of the hard of hearing has always been the bane of the sincere otologist and for many years an attempt at solution seemed to have come to a standstill. There has been a revival of interest in the subject of late years and out of the welter of work some definite conclusions and facts have ensued.

There are many people who are slightly deaf and do not know it. There are others who are so afflicted, say in one ear, that think that deafness is a hopeless condition and they do nothing about it. Late studies by Jarvis have thrown some interesting light on the disability. He has proved that a large number of our ectodermal ailments, of which the ear is one of the organs afflicted, is caused by "cell block" in the oxidation process. In other words, we are not metabolizing properly when there is evidence of pathology of ectodermally derived structures. Under his dietary regimen there have been many patients without purulent invasion of the ear structures who have picked up from ten to forty per cent of their lost hearing. The diet consists of foods low in carbohydrate content and the use of citrus fruit juices. This is supplemented by mixed vitamins in capsule form, and in children some form of iodized cod liver oil. At the Jackson Clinic in Philadelphia remarkable cessation of tinnitus is being noted following the use of a nasal spray of estrogenic substance (amniotin). The action of estrogenic substance in this instance is still unexplained. They are also urging these patients to eat foods that assist oxidation; e.g., honey in place of polysaccharidal sugars and wheat foods instead of corn products. It is still the vogue at the Jackson Clinic to re-

move adenoids and tonsils and to correct deviated septa in the hard of hearing patients when indicated.

Perhaps the most useful and practical treatment in the field of the restoration of hearing is the long continued use of 50 mg. doses, three times daily, of nicotinic acid (vitamin B complex).

In the cases of hard of hearing complicated by purulent discharge, sulfanilamide, along with cleansing treatment, has met with a great deal of success in the matter of obtaining a dry ear, as well as improving the hearing by medical and dietary treatment. Another noteworthy advance has been the use of lipiodol in the treatment of adjacent sinus conditions that may have a bearing on tinnitus and purulent otitis. In these cases the sinuses are lavaged with 25 per cent lipiodol.

Perhaps the greatest advance has been made in the field of the hitherto helpless condition known as otosclerosis. This entity can now be helped and in some cases cured by the endaural operation of Lempert. The earlier work of Barany and Holmgren to ameliorate deafness of otosclerosis by means of surgery led to the conclusion that a new fenestra in the bony capsule of the labyrinth created by operation and kept open by suitable membrane will restore hearing and stop tinnitus. The endaural operation of Lempert to create a permanently open fistula of the bony labyrinth (not the membranous) according to him is indicated in the following cases:

1. Clinical evidence of stapes fixation.
2. Loss of practical hearing so that patient is unable to adjust economically and socially.
3. Good bone conduction.
4. A complete absence of middle ear sup-puration.
5. A normal, unperforated, translucent tympanic membrane.
6. A completely intact and healthy cutaneous lining of the bony walls of the external auditory canal.
7. A normal state of health.

A recent report by Lempert shows that out of a series of 23 patients operated on by this method 19 showed practical improvement of hearing. In no case was there a complication.

I feel from the above brief report that we have infinitely more to offer the hard of hearing and they should be apprised of these

newer therapeutic measures in the field of otology.

REFERENCES

Stucky, J. A.: Deficient Vitamin Diets as a Factor in Otolaryngological Conditions, Laryngoscope 34: 647-654 (Aug.) 1924.
Babbitt, James A.: Reports of the Jackson Clinic, 1938.
Lempert, Julius: Improvement of Hearing in Cases of Otosclerosis; New, One Stage Surgical Technic, Arch. Otolaryng. 28: 42-97 (July) '38.
Jarvis, H. A.: Diets, Philadelphia, W. B. Saunders Company, 1938.

CARCINOMA OF THE CERVIX*

By
JOHN DAY PEAKE, M. D.
Mobile, Alabama

The purpose of this paper is to give a brief review of cancer of the cervix, including definition, incidence, etiology, pathology, symptoms, diagnosis, classification, treatment and results.

The material used is from recent literature and books.

DEFINITION

Cancer of the cervix includes those cancers which originate in the vaginal portion of the cervix, as well as those lesions which originate in the endocervical canal between the internal and external os.

INCIDENCE

In a letter from Clifton R. Read, Director of Publicity for the American Society for the Control of Cancer, he gave the following number of deaths from cancer of the uterus and estimated that approximately 90 per cent of these are cancer of the cervix.

TOTAL CASES		CERVIX
16,280	in 1936	14,652
13,718	in 1935	12,356
15,631	in 1934	14,071

We wrote the Bureau of Vital Statistics in Montgomery and Mr. Leonard V. Phelps gave us the following report on deaths from cancer of the cervix:

YEAR	ALABAMA	MOBILE COUNTY	BALDWIN COUNTY
1934	340	30	3
1935	376	19	1
1936	369	21	7
1937	363	24	3
1938	358	15	4

*Read before the Baldwin County Medical Society, Robertsdale, November 7, 1939.

ETIOLOGY

The true cause of cancer of the cervix is like that of other cancers and that we do not know. We do believe that chronic irritation, trauma, infection and certain chemical and physical agents have some relation to cancer of the cervix.

PATHOLOGY

Usually, squamous cell carcinomas, if mature, may arise from transition epithelium of the everted area or in fully developed cylinder mucous epithelium high up in the endocervix. If it starts from epithelium of the vaginal portion, it begins as a typical squamous cell carcinoma. If it starts in the everted mucous membrane or in the endocervical canal, the structure of the epithelial growth is at first adenoid but later develops into solid squamous cell type. However, occasionally, the adenoid type persists from the endocervix, forming an adenocarcinoma.

A cancer beginning in the epithelium of the vaginal portion grows outward in papillary fashion until a characteristic cauliflower mass is formed. It tends to extend to the vagina and bladder rather than toward the uterus, parametrium and lymph nodes. Cancer of the endocervix may grow outward but more often inward to form large ulcers with distal metastasis.

SYMPTOMS

The cardinal symptoms are (1) leukorrhea, (2) bleeding and (3) pain.

Leukorrhea usually begins as an excess discharge due to hyperemia of the tissue and later mixed with pus, exudate and blood.

Bleeding is due to erosion of the capillary blood vessels by the tumor cells and partly by trauma which breaks through the delicate papillary outgrowths. The cauliflower type which grows from the vaginal portion bleeds earlier and more profusely than the ulcerative type of the endocervix.

Pain is ordinarily a late symptom unless there is metastasis or a complication. The normal cervix has little sensation. Pain due to rectal, bladder, ureter or kidney involvement is often the first discomfort. Pressure on the large nerves, with pain in the back, hips and legs, is often noted. Bone metastasis is somewhat rare but does occur and causes deep pain. Distal metastasis is not common, although kidney, ureter, liver, bone, brain, lungs, and peritoneal metastases do occur.

Local extension occurs often, with rectal and bladder involvement.

Infection in the pelvis and urinary tract is quite frequent in the later stages. General toxemia with fever, anemia, weakness and cachexia are terminal symptoms.

DIAGNOSIS

There is a history of increased discharge which has changed in character. Often it has a foul odor and may be brown or blood tinged. Bleeding occurs after exercise, douches, intercourse or examinations. A few patients have primary bladder or rectal symptoms. All patients with any of the above symptoms should have a complete physical examination, and especially a most careful pelvic examination with visualization of the cervix. This should be done even if a light anesthetic is necessary. A Schilling test (painting the cervix with Lugol's solution and seeing that the normal cervix takes a stain, whereas the abnormal cervix does not) may be done. This test is perhaps helpful but one should not be misled by it.

In all cases a simple biopsy is the safest procedure and this should be studied by a good pathologist. We not only get a diagnosis but, in most cases, a grade which is most helpful in outlining the treatment. It also gives one a better idea of the prognosis.

Carcinoma of the cervix should be differentiated from the following: (1) simple eroded cervix; (2) simple ulcer or infection—tuberculosis and syphilis (we had one case of a diabetic with ulcers which was most confusing) and (3) granulomas, fungus, yeast, etc.

CLASSIFICATION

The pathological classification according to Broders is most commonly accepted. This is based on the type of cell, both as to nucleus, nucleolus and proliferation. Of the four grades, grade IV is the most active but the most radiosensitive and usually will metastasize more rapidly. Grade I is the least active and the least radiosensitive. It grows slowly and stays local longer. Grades II and III come between the other two grades with graduating activity.

The clinical classification most commonly used is that of the League of Nations.

Type I. The growth is limited to the cervix, the uterus remaining mobile and no paracervical induration is detected.

Type II. The growth is spread to some portion of the adjacent vagina with or without some induration of the cervical parametrium; and the uterus still retains a degree of mobility. This is the so-called border-line group.

Type III. There is partial or complete fixation of the uterus with induration and thickening of one or both cervical parametria. This is usually regarded as an inoperable condition.

Type IV. This group includes cases in which the cancer has involved adjacent viscera. These cases are hopeless.

TREATMENT

Prophylactic. Chronic cervicities should be repaired and all sources of chronic irritation removed. Have patient educated to early symptoms and as to the importance of a pelvic examination twice a year.

This, like all cancer therapy, will vary with each patient. We have to consider the age of patients, since the very young and old do not tolerate the drastic procedures of the middle group. The clinical type is most important. We use palliative therapy in advanced cases and usually try to stop the bleeding and discharge and also relieve the pain. The less advanced cases have more complete therapy with the idea of a cure. The very sensitive grade IV will not take the large dose of radiation as the slow growing resistant grade I. The complications which usually are present have to be treated as they arise. The bleeding, infection, bladder and rectal symptoms are most troublesome. One should try to get the patient in the best general condition before very much therapy is given. Diet, vitamins, liver and blood transfusions are all helpful. Infection should be treated with hot antiseptic douches, vaginal tampons, sitz-baths and hot enemas. The bladder and rectum can be treated as the symptoms arise.

I do not think there is any question as to the choice between surgery and radiation in cancer of the cervix. In all the leading tumor clinics (Memorial Hospital, New York; Radiumhemmet, Stockholm; and Radium Institute, Paris), the therapy of choice is radiation, both by x-ray and radium. The only case in which I could see any possible doubt would be the very early type I squamous cell carcinoma. This can be handled by surgery with good results.

There are a number of very satisfactory methods of radiation therapy for cancer of the cervix and all are good. They are a combination of x-ray and radium. The three main techniques are: (1) Stockholm, Dr. Heyman at Radiumhemmet; (2) Paris, Dr. Regaud at Locassague (Paris Radium Institute); and (3) Brussels.

The Stockholm technique is three applications in one month with a total dose of 6,000 to 9,000 milligram hours. The Paris technique includes colpostat and uterine applications for 4 to 6 days with a total dose of 6,000 to 9,000 mg. hours. The Brussels' system embraces a small amount of radium in the vagina and uterus for 12 to 14 days giving a total dose of 7,000 to 10,000 mg. hours. The radium is filtered through 1 or 2 mm. of platinum, plus either rubber or some other filter to remove the secondary rays. The rectum and bladder are packed away from the radium.

There are all kinds of combinations of treatments but usually we try to give a course of deep x-ray therapy externally before giving radium, especially in infected cases. Patients with infections will tolerate x-ray much better than radium. In fact, radium should not be used in the presence of infection. Following this series of x-rays, we usually use radium after the teachings of Dr. Regaud of the Paris system. In most cases we use a number of applications at intervals of several weeks.

There are a number of good clinics that use interstitial radium. Others use it in conjunction with other applications. Dr. E. A. Merritt of Washington, D. C. uses x-ray externally; and, instead of radium, uses x-ray in the vagina through special applicators. In his hands this has been quite satisfactory and it certainly has some advantages.

The various recurrences and other complications each have to be individualized and treated as the case demands.

RESULTS

The results will vary with the age of the patient, and the type and grade of the disease.

3% of patients with untreated cancer of the cervix live 5 years.

52% with early cancer of the cervix live 5 years if treated by radiation.

40.9% live 5 years if treated by surgery.

13.52% with inoperable cancer of the cervix live 5 years if treated by radiation.

No cases of inoperable cancer of the cervix live 5 years if treated by surgery.

In 1937, I reported 186 cases of carcinoma of the cervix from the Employee's Hospital, Fairfield, Alabama, with 56% cures in the early stages. Some clinics report as high as 70%.

SUMMARY

From 12,000 to 14,000 die from cancer of the cervix each year in the U. S. Approximately 350 die from cancer of the cervix each year in Alabama. The true cause is still a mystery but relief of chronic irritation seems to have some bearing.

Most cancers of the cervix are squamous cell carcinomas, although adenocarcinomas and transitional cell carcinomas do occur. The chief symptoms are leukorrhea, bleeding and later pain. These, as we all know, should be investigated by a physician. A complete examination, especially pelvic, and a biopsy should always be done. Early diagnosis and treatment will save 50 to 70% of the early cases. If advanced, the chances are much smaller. I would like to stress that minor pelvic symptoms, especially in women at or near the menopause, should be closely watched.

The treatment of choice for cancer of the cervix is radiation therapy. A small select number may be controlled by complete surgery.

In closing, I would like to leave this one thought: Cancer is curable if diagnosed and treated early. We should appear hopeful to our patients.

BIBLIOGRAPHY

- Cutler, Max, and Buschter, Franz: *Cancer, Its Diagnosis and Treatment*, Philadelphia, W. B. Saunders Company, 1938.
- Delario, A. J.: *A Handbook of Roentgen and Radium Therapy*, Philadelphia, F. A. Davis, 1938.
- Graves, W. P.: *Gynecology*, Philadelphia, W. B. Saunders Company.
- Kaplan, Ira A.: *Radiation Therapy*, New York, Oxford University Press, 1937.
- Peake, John Day: *Cancer of the Cervix; A Report of 186 Cases*, J. M. A. Alabama 7: 113-115 (Sept.) '37.
- Merritt, E. A.: Personal communication.
- Phelps, L. V.: Personal communication.
- Pohle, E. A.: *Clinical Roentgen Therapy*, Philadelphia, Lea and Febiger, 1938.
- Read, C. R.: Personal communication.
- Waters, C. A., and Kaplan, Ira A.: *Radiology*, Chicago, The Year Book Publishers, 1934-1939 (both inclusive).

GYNECOLOGY AND ENDOCRINES*

DAY OF J. MARION SIMS AND NOW

By

GILBERT F. DOUGLAS, M. D.
Birmingham, Ala.

Gynecology, defined as a study of diseases of women, is, as its name implies, a broad subject and includes in its scope an extensive field of operation. It is only natural that a period of years will show many progressive steps in the development of this speciality.

James Marion Sims¹ was born in Lancaster District, South Carolina, January 25, 1813. He was given the degree of Bachelor of Arts at the College of South Carolina in 1832, and finished at the Medical College in Philadelphia in 1835. After this he practiced medicine in Alabama for eighteen years, then went to New York. After a short time recognition came and he was a busy man.

His first contribution to medical literature was an article on trismus nascentium which appeared in the *American Journal of Medical Sciences* in 1846. His papers had to do with silver sutures in surgery (1849) and vesico-vaginal fistula (1852). His surgical treatment of vesico-vaginal fistula gave him world renown.

J. Marion Sims was in search of health when he went to New York. He was poorly equipped, but his experience in Alabama gave him a rare knowledge and skill in surgery. Single-handed, he fought to arouse interest in the operation he devised for the cure of vesico-vaginal fistula. The Woman's Hospital was launched in a small private dwelling during the year 1855. His first patient was Mary Smith, who had just arrived recently in America as an emigrant from Ireland. When the vaginal wall was inspected, a grayish mass came into view projecting well into the vagina. It appeared to be a large stone, but on examination after its removal it proved to be a wooden float from a seine, about the size of a goose egg. This had been introduced into the bladder to prevent it from protruding through the fistulous opening, forming, with the intestines, a true vesical hernia. The float was removed and by so doing the base of the bladder and the urethra were destroyed but through efforts

*Read before the Association in annual session, Montgomery, April 18, 1939.

1. "Sims' Position," *Am. J. Surg.* 13: 578 (Sept.) '31.

of Sims these tissues were reconstructed and restored to function, and for six years this woman was employed as a helper in the hospital.

Sims died in his seventieth year, on November 13, 1883, after he was known to be one of the greatest pioneer surgeons of this country. He is rightfully called "The Father of Gynecology in America."

The history of endocrinology can be divided into three distinct eras:²

The first era, extending from ancient times to the middle of the 19th century, may be designated as the speculative era. The scientists of those days concerned themselves chiefly with naming the endocrine glands and with speculating regardless of their function.

The second era, extending through the latter half of the 19th century and known as the experimental era, was characterized by intensive research of the efforts on both men and animals of removal of the ductless glands.

The third era extends from the beginning of the 20th century down to the present day. It is rightfully known as the biochemical era because during this period the active principles of many of the endocrine glands have been isolated, synthesized and their specific reactions identified.

During the past three decades, one discovery after another, each more startling than the other, has followed in rapid succession. Endocrinology is opening a new field in the treatment of menstrual disorders, which have hitherto proved baffling.

In uterine bleeding, good results have been obtained from some of the commercial products containing as near possible the hormone which is deficient.³ It is fairly well conceded that the ovarian dysfunction in these cases consists of a failure of ovulation with abnormal persistence of estrin stimulation and absence of progesterone effect due to the fact that corpora lutea are not formed.

In the realm of sex endocrinology little work of a fundamental nature has been published during the past twelve months. Some valuable investigations on the practical application of the sex hormones have been pub-

lished and these tend to establish the place of such substitution therapy in three clinical states; namely, (a) the general neurovascular phenomena of the menopause, (b) the trophic irritative diseases of the vulva occurring at or after menopause, and (c) habitual or recurring abortion.

For the nervous and vasomotor symptoms of the menopause, such as flushings, irritability, nervous depression, involutional melancholia, indigestion and sleeplessness, the estrogenic hormone is virtually specific if employed in adequate and properly spaced dosage. It is effective in both the natural and the artificial menopause.⁴

During the past ten years the hormones of the female sex glands have found themselves a secure place in the gynecologist's armamentarium. Novak⁵ and others have constantly stressed the value of the anterior pituitary-like hormone in functional bleeding. The hormone is most effective in functional bleeding of the adolescent and has definitely removed these unfortunate young women from the uses of radical doses of radium. In 1931 in New Orleans Novak gave an excellent address on "Functional Bleeding."

We stand on the threshold of the realm of these hormones. We cannot project ourselves into the future and see how they will be ultimately valued and used. We know they hold much good but we have so far given little attention to the possible harm they may bring to our patients. It is our duty to exert every effort to make a definite diagnosis in each case and to use these hormones only when there is a specific indication for their use and only after organic disease has been definitely eliminated. Used wrong they will make us poor gynecologists. Development of knowledge concerning the glands of internal secretion, and their relation to the female genital tract, has released a flood of light on gynecologic problems.

In treating menorrhagia or metrorrhagia due to endocrine imbalance in young women, where the production of an artificial menopause by x-ray or radium is contraindicated, pituitary-like hormone is particularly valua-

2. Lewis, D., and Geschickter, C. F.: Gonadotropic and Estrogenic Principles in Myoma of Uterus, *J. A. M. A.* 104: 45-46 (Jan. 5) '35.

3. Phillips, W. D.: Evolution of Gynecology, *New Orleans M. & S. J.* 90: 175-183 (Oct.) '37.

4. Young, J.: Obstetrics and Gynecology, *Practitioner* 141: 377-385 (Oct.) '38.

5. Novak, E.: Etiology and Treatment of Functional Uterine Bleeding, *South. M. J.* 25: 261-266 (March) '32.

ble.⁶ Moderate diffuse enlargement of the uterus is frequently encountered in functional bleeding and is not a contraindication to hormone therapy. More exacting methods of diagnosis of pituitary and ovarian dysfunction are necessary before the full value of anterior pituitary-like hormone therapy will be realized.

It is the duty of the corpus luteum hormone to complete the work of the follicular hormone, and to convert the endometrium from the proliferative phase into the secretory phase, which begins with rupture of the follicle and ends with the menstrual period. Thus the corpus luteum hormone is the hormone which prepares the uterus for pregnancy. The relationship between these hormones and the events in the menstrual cycle should be noted.

In getting the family history, in addition to parents, sisters and brothers, one should find out if the father is abnormally tall and the mother abnormally short for they will very often produce children with pituitary deficiency.

Amenorrhea is perhaps the most profound result of ovarian failure. Hormone studies of amenorrheic women usually reveal a deficiency of the estrogenic substance, the amount varying with the degree of ovarian failure. Scanty and irregular menstruation indicates ovarian failure.

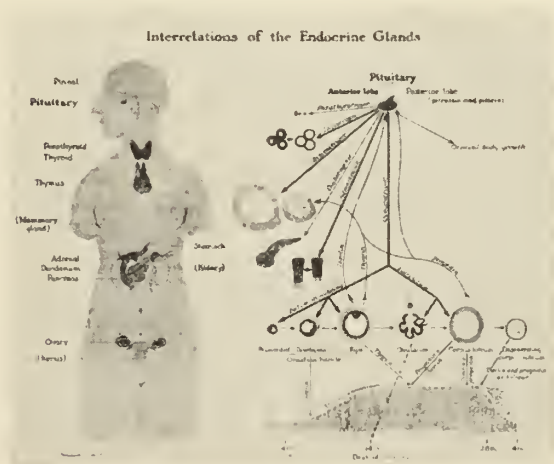
For the completion of the normal menstrual cycle, four hormones must be present. Further, they must be properly balanced in quantity and make their appearance in proper sequence. The anterior pituitary gland furnishes two of these hormones, which are known as prolactin A, the follicle stimulating hormone, and prolactin B, the luteinizing hormone. The ovary produces the other two hormones, known as estrin and progesterone. Through its prolans, the anterior pituitary is the stimulator and energizer of the ovary where estrin and progesterone are produced, which in turn act on the endometrium and uterine muscle.

No hormone when injected can or does have any influence on the parent gland. The ovarian hormones have no influence on the ovary, and anterior pituitary hormones have no influence on the pituitary body, just as insulin has no influence on the pancreas.

6. Henderson, D. N.: Treatment of Menorrhagia and Metrorrhagia by Anterior Pituitary-Like Hormone, *Canad. M. A. J.* 32: 615-620 (June) '25.

Ovarian hormone therapy is merely substitution whereas pituitary hormones are stimulants to the ovaries, but substitutive to the pituitary body. I feel our greatest successes will come from stimulation by gonadotropic hormones.

One of the striking manifestations of genital physiology is the phenomenon of menstruation. The cause of this periodic bleeding has long been the subject of interest and investigation. Now at last we have a very clear insight into the mechanism of its control, although it cannot be explained with competent finality. The organs involved in menstruation are the anterior pituitary gland, the ovary and the uterus.



If the endocrine field is to be explored, the determination of the basal metabolism is undoubtedly the first step.

The ovaries are not at all essential to the life of the individual woman.⁷ On the other hand, the removal of other endocrine glands whose function seems radically less fundamental, such as adrenal or hypophysis, is compatible with life. Profound metabolic disturbances follow the ablation of the thyroid, parathyroid, adrenal or the hypophysis, while ovariectomy at any epoch of life produces much less striking effects upon the body economy.

There must be a distinction drawn between the treatment of menopausal symptoms and the management of the woman passing through the menopause.⁸ The well-

7. Novak, E.: Some Less Generally Recognized Aspects of Gynecologic Endocrinology, *Am. J. Obst. & Gynec.* 34: 237-247 (Aug.) '37.

8. Seringhaus, E. L.: Relief of Menopause Symptoms by Estrogenic Preparations, *J. A. M. A.* 104: 624-628 (Feb. 23) '35.

known vasomotor group of symptoms are the only ones which seem clearly attributable to the hormonal readjustment of the menopause though it is possible that others may at times be directly produced. However, the menopausal woman may present many other manifestations only indirectly of menopausal significance, and yet often constituting real problems in treatment, which must be along psychic and general rather than endocrine lines. Only a minority of menopausal women need medical treatment, and a smaller proportion require organotherapy. Involutional melancholia cases should be carefully studied. While the mechanism of the vasomotor menopausal symptoms are not clear, the immediate factor is quite certainly the cessation of ovarian function, and ovarian therapy with the new available effective preparations of estrogens is a rational procedure. The results are variable, rarely brilliant, but often satisfactory to both patient and physician. Light irradiation of the hypophysis may be tried if organotherapy is unsuccessful, but its too promiscuous use should be decried.

Up until a few years ago the medical profession had very little to offer the woman suffering from the menopausal syndrome. Discovery of the estrogenic hormone of the ovary and more recently the commercial production of more potent preparations of estrogens are radically changing the physician's view point. Cessation of menstruation is but one symptom of a large clinical syndrome. The symptoms may appear years before the amenorrhea and may persist into old age.

The subject of sterility could have been covered on one printed page only a generation ago." During recent years, however, following the pioneering work of Frank in endocrinology, of Rubin in the development of the test for tubal patency, simplified methods of basal metabolism determination, the work of Huhner and Moench in semen study and the investigation of ovulation by means of the suction curette, the study of sterility has made rapid strides, culminating in an excellent monograph by Meaker only three years ago.

The absence of ovulation in these cases may also be inferred by the absence of mit-

telschmerz and the absence of spotting or mucoid discharge about two weeks before the expected period. Endometrial studies during the last week of the cycle, that is, during the secretory phase, show evidence of corpus luteum activity only if ovulation occurs. The endometrium may be obtained by means of a suction curette which can easily be passed into the uterus as an office procedure. Thyroid dysfunction is not infrequently a cause of sterility in either the male or female.

The granulosa tumor is believed to arise from the unused forerunner of the granulosa cells which normally develop into the primordial follicles. Clinically these granulosa cell tumors are relatively benign. The metastases when they do occur may do so not only locally or in the other ovary, but also in the abdominal viscera and retroperitoneal lymph nodes.

Other tumors of the pelvis of endocrine significance are the chorionepitheliomas, the microscopic picture of which closely resembles placental tissue. These tumors may be found in the ovary but are more common in the uterus. They have also been found in the fallopian tubes and elsewhere in the body. They are somewhat malignant and may metastasize to other organs.

The gynecologist of today, properly armed with an understanding of endocrine factors and their relations in the physiology and pathology of the genital tract, is no longer a pauper so far as ability to treat these conditions is concerned.

The reasons for the vogue which endocrine therapy is enjoying are not hard to find. First, there is the undoubted need for a scientific therapy of the many functional disorders of the female reproductive system. Furthermore, the so-called sex hormones are apparently relatively safe, more or less regardless of dosage, and no accidents have occurred, such as attended the introduction of insulin, thyroid extract and pituitrin.

Yet the most important reason for the acceptance of the new products is the brilliance of the basal scientific work which preceded their appearance in the clinical field, for whatever may be said against the new endocrine therapy it can never be said that it is entirely empirical. The true pituitary

9. Baron, H. A.: Gynecological and Endocrinological Aspects of Sterility, *Canad. M. A. J.* 37: 232-237 (Sept.) '37.

hormone is essentially follicle stimulating.¹⁰ The gonadotropic substance derived from pregnancy urine has been called A. P. L. (anterior pituitary-like). A third hormone of the anterior pituitary is thought to stimulate secretion of the mammary gland. Thyroid extract must be mentioned in any list of endocrine agents affecting the pelvis.

Certain tests to measure the function of the ovary and anterior pituitary have, it is true, been in use for some time and are constantly being improved. The tests are apt to be overlooked by the majority and perhaps overestimated by the remainder of the profession. The patient's age, the evidence of fertility as derived from the dates of her pregnancies and the use of contraceptives, as well as changes in weight, are of fundamental importance. The menstrual history deserves the greatest consideration. The physical examination is also of obvious value. The state of the patient's nutrition, especially if there has been a recent pronounced increase or decrease in weight, has a great bearing on pelvic glandular function. The patient's own endometrium is decidedly the best test object to determine, qualitatively at least, the presence of ovarian and corpus luteum hormones. Vaginal smears are of some use in determining whether an adequate amount of estrin has been given for the treatment of menopause symptoms. A basal metabolism determination is of enormous importance. It is one of the tests which are roughly quantitative and if abnormal readings are obtained adequate agents are at hand for their correction.

The assay of a single specimen of urine for estrin involves several chemical steps and the use of perhaps twenty castrated mice or rats. The secretion of estrin is quite variable throughout the menstrual cycle, and a report on a single specimen may give quite an erroneous idea of the patient's ovarian function.

The study of anterior pituitary hormone excretion is often attempted in association with estrogenic assays. However, except during pregnancy and in pronounced degrees of ovarian underfunction, the gonadotropic hormones are present in the urine in amounts too small for accurate measurements.

10. Taylor, H. C., Jr.: Present Status of Gynecologic Endocrine Therapy, *Bull. New York Acad. Med.* 14: 608-634 (Oct.) '38.

Corpus luteum hormone cannot be detected in the blood or urine of the nonpregnant patient. For this reason, until recently, the endometrial biopsy taken shortly before menstruation has been the only way of determining whether a corpus luteum had been produced. The value of therapy with the ovarian and anterior pituitary hormones has been established to a varying degree for different clinical conditions. For vasomotor symptoms of the menopause, estrogenic hormones are the ones of choice.

The demonstration of definite histologic alterations in the vaginal mucosa and changes in the p^H of the vaginal secretions gives support to the belief that the estrogenic hormone is also a more or less specific agent for the treatment of certain vaginal conditions.

The plan of treatment for abnormal bleeding will differ markedly according to the patient's age. Before the fortieth year, endocrine therapy (thyroid extract in cases with a low basal metabolism) or either the luteinizing or the corpus luteum hormone itself may justifiably be tried. After the age of forty, if bleeding recurs after curettage, the best plan is probably to resort at once to surgery or some form of radiation therapy with the aim of suppressing completely the ovarian function.

Whether, following curettage, hormone therapy is of value to prevent return of the bleeding is at present unknown and will be difficult to prove.

In examining the discharged menstrual blood, Mommsen and Thyssen¹¹ found that this same substance is present in it in higher concentration than in circulating blood with its maximum level on the first day of the flow. This formation inhibiting ability of circulating blood is different in different women, and always varies in the same woman at different phases of the cycle. The phenomenon disappears after the menopause.

Immediately after pregnancy begins there is an increased production of both ovarian and pituitary hormones which are excreted through the urine. The pituitary hormones continue to increase to about the fourth or fifth month of pregnancy at which time a liter of urine may contain five or six thousand rat units. After this time there is a regression of these hormones and near the

11. Mommsen and Thyssen, *Monatscher f. Gekurtsh U. Gynak.*

end of pregnancy they are found to be only slightly above normal.

With the recent availability of chemically pure and highly concentrated estrogenic products, we are confronted with the problem of safety, therapeutic indications and optimal dosage. In a previous study¹² on the constitutional effects of relatively large doses of estrogens, Mazer found that administration of from 100,000 to 260,000 rat units of the principle, given in divided doses over a period of from two to three months, produced appreciable changes in body weight, basal metabolism, blood pressure, blood count, coagulation and bleeding times, blood chemistry and the urine.

Observations made following the course of treatment of 95 women suffering from menopausal disturbance indicated that the sustained use of adequate amounts of estrogenic substance tends to shorten the course of the disturbance. In no case was therapy needed longer than thirty months. The daily dose required varies and must be determined by trial. There is no clinically significant difference between the same number of units of the different preparations, amniotin, theelin and progynon, when they are administered by the same route.

Determinations of the amounts of estrin and prolan in the blood and urine and biopsy of specimens and curettages of endometrium have made possible the determination as to whether the failure lies primarily in the ovaries, the estrogenic or the luteal hormones being involved, or whether such failure is secondary to failure of the anterior lobe of the pituitary gland to produce the gonadotropic hormone.

Evidently there is no question in the minds of clinicians who have been fortunate enough to have at their disposal a laboratory equipped to make determinations of estrin and prolan in the blood or urine of patients with functional disturbances of the reproductive organs. It is possible to decide from such studies whether the ovaries are secreting estrogenic hormone in nearly normal amounts; and whether the anterior lobe of the pituitary is secreting prolan and the gonadotropic hormone in nearly normal or in excess amounts.

Clinicians owe a great debt of gratitude to the histologists and pathologists who are steadily furnishing them information regarding the phases of the endometrium during normal and abnormal menstrual cycles.

When the endometrium is atrophic, one may expect both ovarian hormones to be present in amounts insufficient to effect any change in it, and that this type of endometrium may be associated with both amenorrhea and metrorrhagia is not as strange as it may seem. As yet we do not know what initiates menstrual bleeding in the normal cycle. It may be an agent entirely apart from the ovaries.

With the help of the newer diagnostic aids, the large group of cases of menstrual dysfunction can now be divided into those of primary pituitary failure and those of primary ovarian failure. Young women with pituitary failure complain chiefly of menstrual irregularity, and, if married, of sterility. They are inclined to be obese and to have metabolic rates lower than normal.

Young women who have ovarian failure are usually of normal weight and have nearly normal metabolic rates. In addition to the menstrual irregularity and the sterility, they complain of many symptoms associated with their irregular, scanty menses, and often also of vasomotor disturbances, such as hot flashes during periods of amenorrhea. Soreness of the breasts, pelvic pain with nausea and vomiting, a migrainous type of headache, aching of the lower part of the back and thighs, increased nervous irritability and such skin manifestations as acne, urticaria, and angioneurotic edema may antedate or accompany menstruation.

The quantity of estrogenic substance excreted in the urine is important in diagnosis, and it has likewise been of use in evaluating the effects produced by various forms of therapy. The importance of insisting on a continuous month's study has been emphasized, since, in several instances, repeated specimens are consistently negative over from nine to twelve days, and then considerable amounts, as much as from 400 to 600 mouse units, are excreted in the course of the next succeeding days. Whether this sudden excretion corresponds to follicle ripening (or ovulation) and to the premenstrual increase of excretion must as yet remain unanswered.

12. Mazer, C., and Israel, S. L.: Studies on Optimal Dosage of Estrogens; Experimental and Clinical Evaluation, J. A. M. A. 108: 163-169 (Jan. 16) '37.

That ovulation may occur during amenorrhea is proved by the following cases: A woman, 23, with primary amenorrhea, was observed recently, and although she had never menstruated and without molimina she conceived and required operation for ectopic gestation.

A woman, 23, a secundipara, whose last child was seven years old had been amenorrheic for fourteen months. When seen, the uterus was the size of a six weeks' pregnancy; the Friedman test was positive; she carried through to term.

The low group, namely those with excretion of from 50 to 200 mouse units and from 500 to 850 mouse units in the course of thirty days, must be regarded as having diminished ovarian function. The increase of gonadotropic substance in both of these groups was not sufficiently distinctive to bespeak such diminution in ovarian function as may follow preponderance of the prepituitary activity similar to that which takes place in the menopause; nor, as will be referred to later, was the response to estrogenic therapy in these patients the same as in women in the menopause.

In the gonadotropic studies of the blood and urine in which the follicle stimulating and luteinizing effect on immature rats was assayed, two groups were noted.¹³ In the one, continuous and excessive secretion and excretion were observed: in the other, the gonadotropic factors were found absent throughout.

Just as an analysis of the estrogenic factor fails to offer a complete explanation of amenorrhea, the same holds true of the gonadotropic study. In miniature animals, injection of sufficient amounts of gonadotropic factors, A. P. L., anterior pituitary extract from placenta (Collip), extract of pregnant mare's serum (Upjohn), or extract of the pituitary gland (Parke, Davis), produces follicle stimulation, ovulation and luteinization with the well-known correlated changes in the uterus. Whether the presence of the adult ovary can interfere with this reaction has not been established.

Four cases of both primary and secondary amenorrhea were tested at varying intervals, with different dosages of concentrated pregnant mare serum, containing gonadotropic

substance. Both primary and secondary amenorrhea were included in this group. The dosage given according to Upjohn Co. units was 60 to 510 rat units. Each Upjohn unit corresponds to at least three units of test made by Frank's laboratory on immature rats.

From these disappointing results it would appear that both primary and secondary amenorrheas, for which no causation could be discovered, react quite differently from the large group of amenorrheas seen in their endocrine clinics which follow the development of obesity, malnutrition or thyroid deficiency.

In the group of obesity they had patients whose weight reached to 300 or more pounds. The basal metabolism of these patients is studied (the majority prove normal), the sella turcica is roentgenographed to exclude pituitary tumors and a sugar tolerance test and other tests are made. Examinations with the fewest exceptions are negative. When such patients are put on a low caloric diet, by cutting down carbohydrate and fats and given sufficient protein, and the weight has been reduced, menstruation regularly supervenes and continues.

Thyroid deficiency in some patients, as previously described, is sometimes followed, particularly in the puberty group, by menorrhagia. In the majority of cases, however, amenorrhea supervenes. The nutrition of these patients is usually normal. Their basal metabolism rate is found to be between minus 20 and 35 per cent. The amenorrhea is of variable duration. The response to appropriate thyroid medication by mouth is startlingly uniform and successful. Usually thyroid substitution must be continued indefinitely.

Menorrhagia and metrorrhagia both result from a variety of both organic and functional diseases. In the latter, endocrine products are useful; in the former they have no place. In any discussion of the treatment of abnormal uterine bleeding, one must remember that bleeding is only a symptom and that it can result from various causes.

A few lines have contributed to the study of this progress. On the one hand, a combination of clinical and pathological observations have established the relationship of the symptoms to the microscopic appearance of the endometrium. On the other hand, the experimental reproduction of the endome-

13. Frank, R. T., et al.: Amenorrhea: Its Causation and Treatment, J. A. M. A. 109: 1863-1869 (Dec. 4) '37.

trial changes has enabled us to obtain information concerning the relationship of these symptoms to the organism as a whole.

The most striking form of functional menorrhagia and metrorrhagia is found in association with glandular cystic hyperplasia, and studies of this condition have led to an understanding of the disorders of menstrual interval and flow.

The next step by Frank was to investigate the effect of hypophyseal deficiency on ovarian function and endometrial response. A group of animals was partially hypophysectomized and showed the same responses that were observed in the partially castrated group. From these experiments one is forced to conclude that glandular cystic hyperplasia of the endometrium is not a disease but a clinical pathologic symptom-complex referable to at least two glandular disturbances and is only one of a number of such symptom-complexes which result from them.

In attempting to correlate the type of bleeding with the type of endometrium, one finds that an absolute relationship exists. There is, however, a tendency for the minor disorders to occur in cases showing a more or less normal endometrium, indicating a first degree ovarian failure. The severe bleedings usually occur from endometrium characteristic of glandular cystic hyperplasia, indicating a second degree ovarian failure. Bleeding as well as amenorrhea is found in cases presenting an atrophic endometrium, indicating a third degree ovarian failure.

Whatever the degree of ovarian failure a careful examination of the patient will usually reveal evidence of some endocrine disturbance. The most common offenders are the pituitary, the thyroid and ovary. Associated with the endocrine lesion one often finds such other conditions as anemia, focal infections, nutritional disturbances and nervous states.

Functional amenorrhea and metrorrhagia are symptoms of ovarian disturbances, either primary or secondary to diseases of the pituitary or thyroid, or secondary to some constitutional disease affecting one or more components of the endocrine system. The microscopic appearance of the endometrium is the indicator of the severity of the disturbance in ovarian function.

To use the endocrine products an accurate diagnosis must be made. The most satisfac-

tory results are obtained in hypothyroidism. A standard thyroid preparation is selected and administered in all such cases, thereby eliminating difficulties arising from variations in the strength of various extracts.

In pituitary disorders there is often, in addition to the direct lack of pituitary secretion, a failure of the thyroid and ovary. Pituitary preparations in the form of desiccated whole pituitary substance (60 grains or 4 gm. a day) or one of the injectable preparations containing the essential anterior pituitary principles (100 units daily) are used. These preparations are often not effective alone. In such instances small doses of desiccated thyroid, an estrogen, or gonadotropic substance may be necessary as supplemental therapy.

The third principle in the treatment of menorrhagia and metrorrhagia with endocrine products is the eradication of factors contributory to the primary disorder. Foci of infection should be diligently sought and treated.

That the ovaries are sometimes primarily deficient is shown by a large amount of pituitary hormones, by laboratory tests, and by the absence of estrogen, a sure sign of ovarian hypofunction. Treatment by estrogenic substance is useless for no endocrine gland is stimulated by its own product. Furthermore, the effect may be injurious. The gonads are not self regulating; the seat of such control is the hypophysis. We have better results from thyroid even when the basal metabolism is not markedly low.

Most of our knowledge concerning the endocrine glands has been acquired in the past half century, the greater portion of this in the last twenty-five years. New discoveries are being made all the time and at such a fast rate that it is difficult for anyone to keep himself informed on every phase of the subject. Still there is much to be learned, and there are of course additional hormones to be found.

If we look forward to the next ten years to achieve as much as we have in the past ten or even more, we expect the fields in medical practice and biologic science to be much broader and richer.

CONCLUSIONS

1. J. Marion Sims made himself world famous because of the operation he improvised for vesico-vaginal fistula, using silver wires.

He lived in what we might designate as the first era of endocrines in gynecology.

2. Endocrinology is divided into three eras: (a) ancient to the 19th century—the speculative era; (b) the latter half of the 19th century—the experimental era; and (c) twentieth century down to present day—the biochemical era.

3. Estrogenic hormones of practice are specific in menopausal symptoms due to ovarian deficiency.

4. For the completion of the normal menstrual cycle, four hormones must be present, properly balanced and must make their appearance in proper sequence.

5. Anterior pituitary gland furnishes two of these hormones, which are prolan A, the follicle stimulating hormone, and prolan B, the luteinizing hormone. The ovary produces the other two hormones, known as estrin and progesterin.

6. There must be a distinction drawn between the treatment of menopausal symptoms and the woman passing through the menopause.

7. Cessation of the menstrual flow is but one symptom of a large clinical syndrome. Symptoms may develop long before the flow has stopped and continue a number of years after cessation.

8. The plan of treatment for abnormal bleeding differs according to the patient's age. Before the 40th year, endocrine therapy (thyroid extract in cases of low basal metabolism) or either the luteinizing or corpus luteum hormone may be tried. After the age of 40, if bleeding recurs following curettage, the best plan is probably to resort to surgery or some form of radiation therapy to suppress the ovarian function completely.

1111 So. 20th Street

Fracture Treatment—When a fracture is suspected and a roentgenogram is available such study should be obligatory—not only before reduction but also after reduction. An x-ray film after reduction is far more accurate than fluoroscopic visualization. If a patient refuses to have an x-ray study made, a notation should be entered on the patient's chart. This is of equal importance as demanding that a patient sign a release from hospital when discharged against the physician's advice. Such notation may save the physician later embarrassment and would be important evidence in a suit for malpractice. The public is at present so well informed that not infrequently they demand x-ray study even though the case may not warrant the added expense.—Owen, *Texas State J. Med.*, February 1940.

Appendicitis—The idea of waiting for events to develop and for the differential diagnosis to make itself clear with the lapse of time is a pernicious one. Every effort should be directed towards making an immediate differential diagnosis. Nothing should be given by mouth, and no opiates allowed. The factors of local tenderness, pain, fever, urine, white blood count and differential are to be carefully evaluated, and supplemented by a rectal examination in all cases, and, wherever possible, by vaginal examination. The less frequent positions of the appendix are to be considered, and the differences in clinical manifestations in these cases to be taken into account. For instance, where the appendix is of the pelvic type, abdominal rigidity and vomiting may be absent. The pain may be in the left lower quadrant, and the sequelae of irritation of the ureter, bladder, or rectum from the involved appendix, in the form of red blood cells in the urine, frequency of urination, or diarrhea, may be present. Rectal examination may be the only means of demonstrating tenderness.

With a true extraperitoneal, retrocecal appendix, the sequelae of peritoneal irritation in the form of reflex muscle splinting of the abdominal wall and reflex vomiting are absent, as is lower right quadrant tenderness. In these cases, the pain and tenderness will be concentrated in the right flank or back, and it is here that one will find the muscle rigidity. All these factors must be considered, and any indicated measures, necessary for differential diagnosis, such as a flat plate of the abdomen or cystoscopy to rule out stone, carried out immediately. Once the diagnosis of acute appendicitis cannot be definitely excluded, immediate operation should be performed.—Karlin, *New Orleans M. & S. J.*, March 1940.

Sulfapyridine in Pneumonia—While the use of sulfapyridine in the treatment of pneumonia apparently gives the lowest death rate so far attained, it will not necessarily replace the serum treatment. A word of warning is necessary as to the indiscriminate use of this drug. Until improvements are made eliminating the toxic nausea and vomiting, and the danger of renal calculi with kidney failure, we feel that its use should be restricted, so far as the general practitioner is concerned, to those cases of pneumonia for whom serum is not available, unless the case is in a hospital under careful observation, where blood cultures, daily blood counts and urinalyses, typing of sputum and estimation of the blood concentration of sulfapyridine may be carried out.

It has been suggested that every case of lobar pneumonia be started on sulfapyridine as soon as the clinical diagnosis has been made, the sputum taken for typing and the blood for culture. At the end of the first day, if there has not been a critical drop in the temperature to 101° or lower with an improvement in the patient's general condition, serum treatment should be begun, if available.—Robertson, *Virginia M. Monthly*, Mar. 1940.

THE JOURNAL
of the

Medical Association of the State of Alabama

Editor-in-Chief

FRED W. WILKERSON Montgomery

Associate Editors

M. Y. DABNEY Birmingham
W. D. PARTLOW Tuscaloosa
J. N. BAKER Montgomery
DOUGLAS L. CANNON Montgomery

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

Office of Publication

519 Dexter Avenue..... Montgomery, Ala.

Subscription Price \$3.00 Per Year

March 1940

OTITIS AND SINUSITIS IN SWIMMERS

“Since the dawn of civilization, public bathing places have created a problem in sanitation. Recognition of this problem antedates the Christian era. Long before its advent the Chinese were using chemicals in their public baths, and methods of filtration were in use as early as 400 B. C. Today, advances in sanitation have kept pace with the public need for protection arising from the rapid increase in public bathing places throughout this county. . . Sanitarians now give assurance that they can kill or neutralize 99 per cent of the bacteria in a pool. . .

“A cogent factor in the etiology of infections of the upper part of the respiratory tract associated with swimming is man’s invasion of an environment to which he is not adapted. . . The difference between the upper part of the respiratory tract of man and that of the aquatic animals lies not in the mucous membrane but in the ability of animals highly modified for life in the water to close involuntarily or at will the anterior nares, an adaptation conspicuously lacking in man. They are thus able to protect the respiratory epithelium from the destructive action of water.

“In every species whose normal habitat is water, some provision for excluding water from contact with the respiratory mucous

membrane is found, whether in reptilian, avian or mammalian life.”

These excerpts are from the highly interesting and instructive chairman’s address by Taylor¹ before the Section on Laryngology, Otology and Rhinology at the St. Louis session of the American Medical Association. Taylor goes on to describe this mechanism for opening and closing the anterior nares and publishes a number of convincing photographs of aquatic mammals with the nose open and shut.

And we are further informed that “another consistent modification that all aquatic animals have for life in the water is the ability to close the ear in order to prevent water from coming in contact with the membrana tympani. In view of this provision, in man the lack of ability to close the external ear is but another evidence of the fact that he is a terrestrial animal and does not have the modifications necessary for life in the water. . . It is doubtful whether any aquatic animal swims with the external auditory canals open, and when the head is submerged he is dependent entirely on bone conduction for his hearing. . .

“Otitis externa, or furunculosis, from which the swimmer often suffers, likewise illustrates that the external auditory canal was not intended to withstand the vitiating effect of water. If the hand is immersed in sterile water for thirty minutes, the skin will be wrinkled and degeneration of the epithelium will result. A similar change takes place in the ear of the swimmer or diver. Maceration of the delicate dermis by the water breaks the skin and opens up for the ever-present staphylococcus an avenue of infection, with resulting furunculosis. . . Infections of the ear or sinuses secondary to swimming evidently come from one or both of the following sources: Foreign bacteria may gain entrance to the deeper portions of the nasal apparatus and the conjoined structures, or bacteria normally and constantly in this region may be allowed, by a lowered resistance on the part of the swimmer, to multiply to pathologic proportions.”

The author tells us that “man’s loss of body heat during submersion for a period of twenty minutes at a temperature of 70 F. may be five times the normal basal rate.” And he reminds us that “it is now an accept-

1. Taylor, H. Marshall: Otitis and Sinusitis in the Swimmer: J. A. M. A. 113: 891 (Sept. 2) '39.

ed fact that chilling of the body surfaces causes constriction of the blood vessels of the skin and periphery that is followed by a constriction of the blood vessels of the nasal mucous membrane. Also it is generally acknowledged that prolonged ischemia of the nasal mucous membrane naturally reduces the local resistance and favors infection."

For many years now Taylor has been inquiring into the hazards of swimming as encountered by the otolaryngologist. So thorough and painstaking have been his researches and so well stated and convincing have been his conclusions that it is almost impossible to disagree with him. During the past twenty-five years swimming has been indulged in upon an enormous scale in this country and much benefit has resulted. But, as every otolaryngologist, pediatrician and general practitioner can attest, so has a great deal of harm. It is difficult for a physician to tell his patients, especially children, that they should abstain from the pleasures of swimming, but there are times when it must be done. It is disappointing to realize that, despite the splendid work of the sanitarians, swimming is still hazardous, but such is the case. For it is certainly true, in the concluding words of Taylor, "that man is essentially a terrestrial animal and that his anatomy and physiology are not modified for an aquatic environment. When out of his normal sphere, unless he takes cognizance of the limitations nature has placed on him and heeds the fundamental laws that regulate his being, he subjects himself to the likelihood of contracting the infections that frequently beset the swimmer. These nasal and aural involvements run the gamut of pathologic conditions from the innocent circumscribed furuncle to a disease condition of the mastoid, with all its intracranial complications, as well as the fulminating infections of the sinuses and such complications as osteomyelitis of the frontal bone and intracranial lesions."

"The child guidance clinics, still working on methods and theories, are making some progress. For a while the theory that mothers, as a rule, knew less about their children than a scientific expert, prevailed; now, some psychologists have adopted the converse; the mother should be made to feel that she knows more about her child than the expert and it is her problem to treat the child."

UTERINE BLEEDING

Dr. Lee F. Turlington's paper on uterine bleeding and that of Dr. Gilbert Douglas on gynecology and endocrines, printed in this issue of the Journal, are very timely. It is the duty of all physicians to impress their patients with the importance of keeping well. Thorough periodic examinations, with the reporting to the family physician of any unusual symptoms between examinations, often give the physician an opportunity to see diseases in the early stage where cure or arrest of the disease can be accomplished more easily. The challenge for the control of cancer, for example, must be met by the family doctor who sees these patients frequently. It is he, who must convince those, whose lives he is responsible for, of the need for check-up examinations. It is he who must make these examinations, which must be adequate if cancer is to be found early. The watchword for cancer control must be eternal vigilance.

Practicing physicians will do well to read with care these contributions by Doctor Douglas and Doctor Turlington.

THE INDISCRIMINATE SALE OF BARBITURATES

Is it not time for the medical and pharmaceutical professions—each so dependent on the other—to give serious concern to any problem, which, through abuse, prompts the almost simultaneous registering of complaints to the State Health Officer from two unrelated, yet much interested, sources? The two communications follow:

STATE DEPARTMENT OF CORRECTIONS AND
INSTITUTIONS

Montgomery, Alabama

Dr. J. N. Baker,
Board of Health,
519 Dexter Avenue,
Montgomery, Alabama.

Dear Dr. Baker:

We are constantly having barbituric acid derivatives and other hypnotics smuggled into our prisons, especially those in close proximity to Montgomery. Intoxications from the use of these drugs has become quite a source of annoyance to those in authority.

Act No. 236, General Acts 1935, page 639, prohibits the sale of these drugs, except on an order or prescription signed by a physician. We feel that there is quite a promiscuous illegal sale of these drugs to the general public.

At all of our prison hospitals these drugs are kept under lock and key so the leak cannot be from this source.

If your department will take this up in such a manner as to prevent this illegal sale over the State, and particularly here in Montgomery, I feel sure we will not have this condition in our prisons.

Very truly yours,
Nat. G. Clark, M. D.,
Chief Medical Adviser.

February 24, 1940.

ALABAMA STATE BOARD OF PHARMACY

C. B. Goldthwaite, Secretary
Troy, Alabama

Dr. J. N. Baker, Secretary,
State Board of Censors,
Montgomery, Alabama.

Dear Dr. Baker:

The State Board of Pharmacy has received complaints regarding the indiscriminate sale of barbiturates over the State.

Upon investigation we believe this condition exists mainly through the lack of understanding of the barbituric law of 1935 by the druggists and physicians.

As you know, this law was sponsored by a layman member of the Legislature without consulting either of our boards and is practically unenforceable as written. However, after a discussion of this matter at a recent meeting of our Board in Montgomery, we feel, that if some plan could be devised by which the druggists and physicians could have this matter called to their attention and the seriousness of conditions impressed upon them that we could by mutual understanding curtail the sale of these preparations.

We want to assure you that any plan you might suggest will have our hearty support.

Very truly yours,
Alabama State Board of Pharmacy,
C. B. Goldthwaite, Secretary.

February 23, 1940.

It will be noted that Dr. Clark, Chief Medical Adviser of the State Department of Corrections and Institutions, directs attention to the particularly pernicious practice of smuggling these preparations into state prisons and especially those located in and around Montgomery.

Mr. Goldthwaite, who holds the responsible position of Secretary to the Alabama State Board of Pharmacy, and speaking for this group, makes a plea for full co-operation on the part of physicians and druggists in this important matter. This is unquestionably the proper first approach; it is felt that much of the present abuse results either from ignorance on the part of both doctors and druggists that there now exists a law forbidding the sale of any of the barbi-

turates except upon the *original written* prescription of a licensed physician; or from the gross carelessness or indifference in the observance of the law. The law, furthermore, provides punishment for failure to observe its provisions.

The law follows:

AN ACT

To prohibit the sale of barbital, sulphonethylmethane (trional), sulphonmethane (sulphonal), diethylsulphone-diethylmethane (tetronal), paraldehyde and chloral or chloral hydrate or any of its derivatives, compounds or mixtures of any of these drugs possessing hypnotic properties or effects, except upon prescriptions of lawfully authorized practitioners of medicine, dentistry or veterinary medicine.

Be It Enacted by the Legislature of Alabama:

Section 1. No person, firm or corporation shall sell, furnish or give away any barbital, sulphonethylmethane (trional), sulphonmethane (sulphonal), diethylsulphone-diethylmethane (tetronal), paraldehyde, and chloral or chloral hydrate or any derivatives, compounds or mixtures of any of the drugs possessing hypnotic properties or effects, except upon the original written order or prescription of a lawfully authorized practitioner of medicine, which order or prescription shall be dated and contain the name of the person for whom prescribed or if ordered by a practitioner of veterinary medicine it shall state the kind of animal for which ordered and shall be signed by the person giving the prescription or order.

Section 2. Any person violating any of the provisions of this Act shall be guilty of a misdemeanor and shall be fined not less than ten dollars (\$10.00) or more than five hundred dollars (\$500.00).

Section 3. All laws and parts of laws in conflict with the provisions of this Act are hereby expressly repealed.

Approved August 8, 1935.

The State Health Officer and the State Board of Pharmacy are now bringing this matter to the attention of the druggists throughout the State, appealing to them for rigid observance of this law and for better co-operation with the medical profession in bringing about its observance. The State Health Officer, speaking for the State Board of Censors and for The Medical Association of the State of Alabama, is also making an appeal to the organized profession of the State for the same purpose. With an understanding of the law and with the facts before them as presented in the above communications as to its abuse, it is felt that one may safely rely upon a prompt correction of existing conditions.

Committee Contributions

Prevention of Cancer

UTERINE BLEEDING

Your Committee wishes to call your attention to the papers on uterine bleeding which will be found in this issue of the Journal.

There seems to be no doubt in the minds of those who see much cancer that there can be no decrease in the mortality unless cancer is seen, first, in its early stages. In previous communications, we have called to the attention of the profession the necessity for periodic examinations. Again, let us direct your attention to these examinations, which should be twice yearly for all women who have borne children, and yearly for those over thirty who are nulliparous and unmarried. These examinations, regardless of their adequacy, will fall short of their value unless we impress upon the patient the necessity of reporting to her family physician any change from the normal which may occur in the time between examinations. To quote from Dr. Turlington's paper: "Too often a patient is seen who has been given a false sense of security by her doctor who has not made an adequate effort to make a diagnosis." Too often also, when the examination has been adequately made, the patient may assume that, because of this examination, she will remain free from cancer. Thus she fails to report symptoms and signs which to her seem insignificant. We should make it very clear to our patients that periodic examinations in themselves do not prevent cancer, but that such examinations, with the reporting to the physician of any signs or symptoms, give an opportunity to find cancer in its earliest stages where it is curable.

WOMEN'S FIELD ARMY

The Women's Field Army, organized by the American Society for the Control of Cancer several years ago, has made great progress in the several states. This year the Alabama State Commander is Mrs. Herman Jones of Auburn. Mrs. Jones has been active in club work in the State. She succeeds Mrs. G. W. Adams of Andalusia.

The Association's Committee on Prevention of Cancer, with the State Commander, acts as the Executive Committee for the Wo-

men's Field Army of Alabama. Locally, the cancer committee of the county medical society with the county captain forms the county executive committee. The organization of the Army can go ahead only as fast as the medical profession wills it to go and goes with it. Therefore, it is essential that each county medical society appoint a cancer committee to guide and cooperate with the members of the Army.

April has been set aside by the President of the United States as cancer month. The Women's Field Army has its enlistment campaign at this time. While the enlistments are based on a minimum fee of one dollar, many women are contacted who do not enlist. All of these women are given literature which calls to their attention the need of regular physical examinations and the reporting of danger signals to their physicians as soon as they appear. Emphasis is laid upon the fact that early cancer is curable.

The State committee urges all physicians to cooperate with the Women's Field Army in its educational program through the year. Physicians are in demand for speakers at the meetings of both men and women's clubs and the club members appreciate having scientific information brought to them by the medical profession.

Maternal and Infant Welfare

CLUBS FOR EXPECTANT MOTHERS

Clubs for expectant mothers are being held in various sections of our country with excellent results. These clubs were started to help the mothers of all classes to prepare for their babies. The physicians of these women were giving them the medical supervision they required, but there were many things the women wished to know about clothing for themselves and the babies which would have required unlimited time on the part of the physicians. The simpler answer was to have a nurse or a trained worker meet with a group of these women weekly and discuss with them their problems. The physicians in the various localities supervised the preparation of the material to be presented at the meetings. This material would naturally, as in case of diet, for example, be for the normal woman. The number of meetings varies with the commu-

nities but the subject matter groups itself under the following headings:

1. Development of the baby before birth.
2. Everyday living while pregnant (maternal hygiene).
3. Best foods for expectant mothers.
4. Fitting these foods into the family budget.
5. Preparation of foods.
6. Preparing the family for the baby.
7. Personality of the baby.
8. General infant care.
9. Practical preparations for the baby (layette, bed, etc.).
10. Bathing the baby.
11. Food for the baby.
12. Delivery at the hospital.

It is interesting to note that the physicians have found these classes of great value for their patients whether in their private cases or in the clinic group. One of the most successful series of classes has been conducted in Cleveland. Reports there show a markedly lowered mortality and morbidity rate among those attending the classes. The additional emphasis given to the prenatal routines as outlined by the physicians helps the patients to carry out their instructions more carefully. It would seem from these reports that the organization of such classes in our communities would be another instrument in the reduction of maternal mortality and morbidity.

Public Relations

THE COST OF HOSPITAL MAINTENANCE

Because of the interest recently manifested by the President in the problem of better hospital facilities for the needy in the distressed areas of our country, followed by the introduction into the Federal Congress of legislation—principally the Wagner and Mead bills—which seek to provide federal aid for these purposes, the State Health Officer has received a large number of inquiries from persons interested in obtaining for their communities hospitals which it is proposed for the federal government to erect at its own expense under the terms of a measure now under consideration by Congress. Practically all of these inquiries have included requests for information regarding the expected cost of maintenance of the hospitals to be erected under this plan, which cost must become the responsibility of the communities in which these federally-constructed institutions are erected.

Naturally, the maintenance cost of a particular hospital will depend upon local conditions, the size of the institution, and other conditions peculiar to that particular hospital. However, the experience of other communities may be drawn upon with profit in estimating maintenance costs.

Replying to a recent letter of inquiry, Dr. Joseph W. Mountin, Assistant Surgeon General, Domestic Quarantine Division, U. S. Public Health Service, wrote:

"Roughly, the maintenance cost per bed per year of a small hospital amounts to \$900. Each bed should be self-supporting for approximately one half of the time, being occupied by a paying patient. For the remainder of the year the community would be required to contribute to the maintenance of the bed for the occupancy of an indigent person. This community support should be, therefore, estimated at \$500 per bed per year."

Dr. Henry J. Southmayd, Director of the Division of Rural Hospitals of The Commonwealth Fund, replying to a similar inquiry, wrote as follows:

"In reply to your inquiry of the 19th, we feel that the maintenance cost of small hospitals located in rural communities should be the equivalent of \$5 more or less per patient per diem varying with prices and wages in different parts of the country. Our experience shows that in Southern hospitals the cost is somewhat lower than the average. Any cost substantially lower than \$5, in our judgment, represents an undue sacrifice in standards of hospital care."

The Fourteenth Annual Report of the Hospital Section of The Duke Endowment (1938) shows average per-patient-per-day costs for 120 general hospitals as follows:

Ten hospitals having over 100 patients per day: in-patient cost per day, \$3.938; out-patient cost per visit, .50.

Nine hospitals for white patients only, with schools of nursing: in-patient cost per day, \$4.467; out-patient cost per visit, \$1.332.

Thirteen hospitals for white patients only, without schools of nursing: in-patient cost per day, \$4.758; out-patient cost per visit, \$3.067.

Thirty-two hospitals for both white persons and Negroes, with schools of nursing: in-patient cost per day, \$3.810; out-patient cost per visit, .886.

Forty-one hospitals for both white persons and Negroes, without schools of nursing: in-patient cost per day, \$4.149; out-patient cost per visit, \$1.193.

Seven hospitals for Negro patients only, with schools of nursing: in-patient cost per day, \$2.320; out-patient cost per visit, .831.

Eight hospitals for Negro patients only, without schools of nursing: in-patient cost per day, \$2.275; out-patient cost per visit, .290.

"Hospitals," the Journal of the American Hospital Association, published in its issue of April 1938 the results of the 1935 Business Census of Hospitals in the form of an article by Elliott H. Pennell, Joseph W. Mountin, M. D., and Emily Hankla, all of the U. S. Public Health Service. According to this survey, the following annual costs per bed were found to apply to the types of hospitals studied:

All hospitals (except infirmaries units of institutions), \$677.

General and Special (exclusive of mental, tuberculosis and institutional hospitals), \$1,074.

Federal, \$1,081.

Other governmental, \$850.

Nonprofit, \$1,198.

Proprietary, \$915.

Mental, \$310.

Federal, \$732.

Other governmental, \$262.

Nonprofit, \$706.

Proprietary, \$1,094.

Tuberculosis, \$774.

Federal, \$1,173.

Other governmental, \$755.

Nonprofit, \$746.

Proprietary, \$683.

WILCOX COUNTY'S 1940 FSA CONTRACT

In accordance with the general policies approved on January 12, 1938, by the State Board of Censors of The Medical Association of the State of Alabama, relative to a plan for medical care for Farm Security Administration clients in the State of Alabama, the Wilcox County Medical Society will cooperate with and assist the Farm Security Administration in an effort to make available to its clients reasonably adequate medical services provided the principles and procedures outlined are adhered to.

1. The Farm Security Administration will lend to its clients participating in the proposed medical care program a specific amount or sum of money, the amount for a given family to be governed as far as possible by the estimated income of the family, its ability to pay, and the amount of medical service which will probably be needed. The following amounts shall be provided for each family participating in the medical service program: \$14.00 for each family of two, for twelve months, and \$1.00 for each additional person, not to exceed a maximum of \$22.00 for the larger families. These fees will be

for the calendar year beginning January 1, 1940 and ending Dec. 31, 1940.

2. Each family is to select the physician it wishes as a family doctor, which choice shall make the physician the regular family doctor for a minimum of 30 days. In the event a client is dissatisfied with the treatment he is receiving from any doctor, he may secure permission to change doctors by applying to Mr. Jas. F. Clements, County FSA Supervisor, by giving 30 days' notice in writing. When in an emergency a client cannot get his selected doctor, due to illness of the doctor, absence on vacation, or business, when the doctor has not made arrangements for some other physician to care for his clients, the client may choose another doctor with permission of Mr. Jas. F. Clements, without giving 30 days' notice. The trustee is to notify the physician of the change.

3. Family units are to consist of the father, mother and unmarried children who are dependent and who live all the time on the farm and who do not do public work or have or receive pay from other governmental agencies such as NYA or WPA. Married children and their families are not included in the family unit, unless they pay for another family unit.

4. When more than one family is included in one budget in the FSA program, each additional family is to pay the same sum as the family unit. For example, if a son or daughter marries during the year, they immediately become another family unit, and must secure a grant to receive services.

5. The FSA supervisor is to supply each family unit with a card showing the family doctor chosen, name of head of family, and a list of dependents, with their ages. This card is to be presented by the client when he wishes medical care, drugs, hospitalization or midwife care, or dental care.

6. The FSA is to supply the trustee with a list of families, showing the family physician chosen, number and names of dependents in the family and the amount of the loan.

7. Funds loaned to families are to be deposited in Wilcox County banks, in the hands of a bonded trustee appointed by the Wilcox County Medical Society, subject to the approval of the Farm Security Administration.

8. The funds deposited are to be divided as follows: 3% for administrative expenses,

17% for an emergency fund and 80% for doctors and drugs.

9. The cost of bonding the trustee, stenographic expense, telephone and postage, and supplies are to be paid out of the 3% administrative fund. Any balance at the end of the year is to be added to the emergency fund and used to pay unpaid bills. Any balance will revert then to the 80% fund for doctors and drugs.

10. Only 1/12 of the funds in the emergency fund may be used in paying bills rendered each month. However, any balance brought forward from the first month may be used in paying bills the succeeding month. In case bills are larger than the sum allotted under this article, the bills are to be prorated. However, hospital bills received are to be paid in full if possible and surgical fees are to be prorated, along with other bills received for professional services.

11. The maximum amount any individual can use out of the emergency fund in any one year is limited to \$50.00.

12. Maximum amount allowed for emergency hospitalization and surgery is \$50.00. All cases referred to hospitals will be allowed only ward bed services (maximum \$3.00 a day). In case private rooms are demanded or used, the client will have to pay the difference.

13. In all cases, hospital bills up to \$50.00 are to be paid in full first and, if possible, surgical fees in full as far as possible.

14. All acute emergency conditions shall be paid for out of the emergency fund, and are limited to the following conditions and surgical fees:

Midwife attention	\$ 3.00
Minor surgery	3.00
Fractures, simple	5.00 to 10.00
Fractures, compound or comminuted	\$10.00 to 20.00
Fractures: spine, hip, head	\$20.00 to 35.00
Version and extraction	15.00
Induction of labor	10.00
Acute retention of urine	\$5.00 to 10.00
Emergency obstetrics	15.00
Acute appendicitis	50.00
Ruptured gastric ulcer	50.00
Ruptured ectopic pregnancy	50.00
Acute intestinal obstruction	50.00
Strangulated hernia	50.00
Acute osteomyelitis	50.00
Cesarean section	50.00
Mastoidectomy	50.00

Any other surgical conditions must have the permission of the medical committee for

payment of hospitalization. Except in an emergency no client may go to a surgeon and hospital for treatment and hospitalization without permission of the medical committee, or on order of the family doctor. Unless this provision is followed, the emergency fund will not pay the expenses incurred.

15. In each emergency surgical case, handled outside of a hospital, where the case is more than a minor surgery case, the doctor attending shall be paid up to \$15.00, subject to Article 10.

16. Extraction of teeth for acute pain or abscess is to be paid for out of the emergency fund at the rate of \$1.00 per tooth. Extractions for any other causes, fillings and other dental prothesis must be paid for by the client.

17. All bills for obstetrical attention, minor surgery, hospitalization, fracture work or other services that are to be paid for out of the emergency fund must show name of family, individual, date of services and type of services rendered and must have the approval of the medical committee.

18. The trustee will pay no bills against the emergency fund unless the bills have the approval of the family doctor and medical committee.

19. All bills to be paid against the emergency fund must be in the hands of the trustee by the tenth (10th) of the month.

20. In case there is any balance in the emergency fund at the end of the year, after all bills have been paid in full, it shall revert to the 80% fund set up for doctors and drugs and be divided as in Article 23.

21. The emergency fund set aside for above charges is all that the doctors and medical cooperative are liable for. In case more funds than allotted are needed in any individual case, the client and supervisor will have to ask for a loan or grant to cover difference between what the emergency fund can pay and the total amount due surgeon and hospitals.

22. It is understood that medical care or services provided by this agreement are restricted to such reasonable medical care and ordinary drugs as would be furnished in doctors' offices or in the homes of the clients and for acute illness or injuries incurred while working on the farm, and does not include treatment for injuries or illness received while on public works. Chronic cases

are not to be treated unless, in the opinion of the physician, they are emergency cases. In other words, the decision of "chronic case" is left with the physician. Routine obstetrical deliveries are not to be furnished but emergency obstetrical attention will be provided. Bill therefor is to be presented to the trustee against the emergency fund as in Article 14. The physicians participating agree to furnish reasonable services and ordinary drugs in so far as they are physically able, but, as in private practice, reserve the right to postpone or turn down calls for services in illness and/or emergencies, or in cases where they feel that it is not necessary or in cases where there is an unreasonable demand.

23. The amount set aside for doctors and drugs (80%) is to be deposited in a special fund and paid out as follows: This sum is to be divided by the total number of families in the FSA medical plan, giving an average amount per family. Each month, the individual doctor is to receive a check determined by the number of families on his list, times the average amount per family, divided by 12 (i.e., 40 families times \$15.00 divided by 12 equals \$50.00 per month).

24. Monthly checks are to be mailed to doctors by the trustee only after receiving an itemized statement showing the name of the family, name of patient, diagnosis, services rendered, amount of drugs furnished and total bill.

25. With this check, the trustee is to render an itemized statement to each physician participating and the supervisor of the FSA showing number of families each doctor is serving, services rendered by each doctor and amount paid each doctor. He is also to include names of those hospitalized, bills received for same, all bills for special charges, also amounts paid.

26. Any physician who is a member of the State Medical Association, in Wilcox or adjoining county, may participate in this medical care plan if his county has a FSA medical program, and Wilcox County physicians are given reciprocity; and provided he signs this agreement or sends his written request to participate and abides by it. Any time a physician is dissatisfied he may withdraw and his clients may select another physician.

27. In the event there is excessive and unwarranted demand for professional care and drugs, the family may be dropped from the list of participating families by the physician,

any unearned balance reverting to the client or trustee. This notice can be made in writing to client and trustee.

28. Each physician shall be provided by the trustee with a list of the clients who have selected him as their family doctor. This list must show the head of the family, number and names of dependents and amount of loan.

29. Each physician shall have the right to reject any client on his list if, in his judgment, it is necessary. The client may then select another physician.

30. A medical committee of three members is to be formed to meet with the trustee once a month. The committee will have a permanent chairman and one rotating and one permanent member appointed by the President of the Wilcox County Medical Society. The committee shall check all bills, adjust all complaints and make any changes necessary in the plan to secure best results. Any changes in plan must be presented to the FSA Cooperative Specialist for approval.

FARM SECURITY ADMINISTRATION:

Jas. F. Clements
Supervisor—Wilcox County

WILCOX COUNTY MEDICAL SOCIETY:

K. A. Mayer
President

J. P. Jones
Secretary

"Thirty-five years have passed since the Council on Pharmacy and Chemistry of the American Medical Association met at Pittsburgh to organize. Since that time its work as a standing committee of the Board of Trustees of the Association has been continuous. From the time of its organization the names of the members of the Council and their connections have been made known; members, with the exception of the executive secretary, serve without remuneration. The Council publishes its conclusions, whether they are for or against the acceptance of a drug. It issues reports to the medical profession on matters of *materia medica*. Products are admitted to the book *New and Nonofficial Remedies* according to a set of rules published for the information of physicians and manufacturers. Remuneration in any form is never accepted for the consideration of submitted preparations. The Council also publishes statements on the status of new drugs."

PROGRAM OF THE ANNUAL SESSION
BIRMINGHAM

APRIL 16-17-18, 1940

THE TUTWILER HOTEL

GENERAL INFORMATION

All general sessions of the Association will be in the Peacock Ballroom of the Tutwiler Hotel, convention headquarters.
Section meetings will be held at the places indicated in the program.

TIME LIMIT OF PAPERS

The maximum time consumed by essayists must not exceed fifteen minutes. This time limit, however, does not apply to invited guests. It is suggested that the salient features of papers be presented within this time, reserving the complete elaboration for publication in the Journal. Discussions will be limited to 5 minutes for each speaker.
All papers read before the Association must be deposited with the Secretary when read; otherwise, they will not be published.
During the discussion of papers, the speaker will please walk forward to the platform and announce his name and address distinctly.
Papers will be called in the order in which they appear on the program. Should a reader be absent when called, his paper will be passed, and called again when the program is concluded.

HOST TO THE ASSOCIATION

The Jefferson County Medical Society

COMMITTEES

Arrangements and Exhibits

E. G. Givhan, Jr., *Chairman*
James B. McLester George W. Warrick

Finance

O. P. Board, *Chairman*
C. D. Gaines C. H. Ford
T. M. Boulware R. M. Pool
D. J. Coyle R. G. Lovelady

Entertainment

E. Dice Lineberry, *Chairman*
J. M. Donald Ralph Morgan
J. M. Townsend

OFFICERS OF THE ASSOCIATION

President

M. S. Davie (1940) Dothan

Vice-Presidents

Merle Smith (1940) Parrish
J. Paul Jones (1941) Camden
R. C. Stewart (1942) Sylacauga
J. S. Tillman (1943) Clio

Secretary-Acting Treasurer

Douglas L. Cannon (1944) Montgomery

The State Board of Censors

E. V. Caldwell, *Chairman* (1940) Huntsville
S. A. Gordon (1940) Marion
K. A. Mayer (1941) Lower Peach Tree
M. Y. Dabney (1941) Birmingham
T. B. Hubbard (1942) Montgomery
W. D. Partlow (1942) Tuscaloosa
French Craddock (1943) Sylacauga
F. W. Wilkerson (1943) Montgomery
J. D. Perdue (1944) Mobile
Lloyd Noland (1944) Birmingham

State Health Officer

J. N. Baker (1940) Montgomery

GUESTS OF THE ASSOCIATION

Frank K. Boland
Professor of Clinical Surgery
Emory University School of Medicine
Atlanta, Ga.
John B. Youmans
Associate Professor of Medicine
Vanderbilt University School of Medicine
Nashville, Tennessee
James W. Bruce
Associate Professor of Pediatrics
University of Louisville School of Medicine
Louisville, Kentucky
Milton S. Lewis
Associate Professor of Clinical Obstetrics
Vanderbilt University School of Medicine
Nashville, Tenn.
Emmett D. Colvin
Atlanta, Ga.
Robert B. Greenblatt
Assistant Professor, Pathology and Gynecology
University of Georgia School of Medicine
Augusta, Ga.

E. S. Sanderson
Professor, Bacteriology and Public Health
University of Georgia School of Medicine
Augusta, Ga.

Wm. Thornwall Davis
Professor of Ophthalmology
George Washington University School of Medicine
Washington, D. C.

E. V. McCollum, Ph. D.
Professor of Biochemistry
Johns Hopkins University
Baltimore, Md.

William A. Evans
Formerly Commissioner of Health, Chicago
Aberdeen, Miss.

PROGRAM

First Day, Tuesday, April 16

Morning Session

Peacock Ballroom
Tutwiler Hotel

1. Call to Order at 10:00 A. M. by the President—
M. S. Davie, Dothan
2. Invocation—
3. Addresses of Welcome—
Hon. Cooper Green, Chairman, Birmingham City Commission.
John W. Simpson, President, Jefferson County Medical Society.
4. Presentation of the President—
Merle Smith, Senior Vice-President, Parrish.
5. Message of the President—
M. S. Davie, Dothan
6. Reports of the Vice-Presidents—
 - (1) *Merle Smith, Parrish.*
 - (2) *J. Paul Jones, Camden.*
 - (3) *R. C. Stewart, Sylacauga.*
 - (4) *J. S. Tillman, Clio.*
7. Report of the Secretary and Acting Treasurer—
Douglas L. Cannon, Montgomery.
8. Report of the Committee of Publication—
F. W. Wilkerson, Montgomery.
9. Reports of Standing Committees—
 - (1) Public Relations—
John A. Martin, Chairman.
 - (2) Mental Hygiene—
Frank A. Kay, Chairman.
 - (3) Maternal and Infant Welfare—
A. E. Thomas, Chairman.
 - (4) Prevention of Cancer—
J. P. Chapman, Chairman.
 - (5) Prevention of Blindness and Deafness—
J. T. Cater, Chairman.
 - (6) Postgraduate Study—
Ralph McBurney, Chairman.
 - (7) Fractures and First Aid—
Earle Conwell, Chairman.

(8) Archives and History—
S. A. Gordon, Chairman.

* * *

At noon there will be a buffet luncheon at the Tutwiler.

Afternoon Session

Tuesday, April 16

2:00 P. M.

SECTION ON MEDICINE

Peacock Ballroom
Tutwiler Hotel

E. M. Mason, Birmingham, *Chairman*
C. R. Bennett, Eufaula, *Secretary*

1. CHAS. H. WILSON and LLOYD NOLAND,
Fairfield.
Paper: *More Recent Ideas in the Treatment of Burns.*
Discussion: Frank C. Wilson and Ralph Morgan, Birmingham.
2. R. O. RUSSELL,
Birmingham.
Paper: *Pneumonia: Emphasis on the Newer Forms of Treatment.*
Discussion: G. C. Kilpatrick, Mobile; E. M. Chenault, Decatur.
3. J. B. YOUMANS,
Nashville, Tenn.
Paper: *Vitamin Deficiencies in Practice.*
4. D. C. HAISTEN,
Dothan.
Paper: *Sulfanilamide and Its Derivatives.*
Discussion: H. S. Bartlett, Montgomery; C. R. Bennett, Eufaula.
5. SEALE HARRIS, JR.,
Birmingham.
Paper: *Treatment of Pituitary Disorders.*
Discussion: G. O. Segrest, Mobile; J. O. Finney, Gadsden.
6. T. K. LEWIS,
Birmingham.
Paper: *The Contraindications to the Use of Morphine in the Treatment of the Acute Stage of Myocardial Infarction.*
Discussion: F. W. Wilkerson, Montgomery; J. F. Alison, Selma.

* * *

SECTION ON SURGERY

Colonial Room
Tutwiler Hotel

T. B. Hubbard, Montgomery, *Chairman*
H. D. Greer, Decatur, *Secretary*

1. J. U. REAVES,
Mobile.
Paper: *Urinary Lithiasis.*

2. E. B. FRAZER,
Mobile.
Paper: *Surgical Management of Ureteral Stones.*
Discussion of 1 and 2: Walter Scott, Birmingham; T. B. Hubbard, Montgomery.
3. CHALMERS H. MOORE,
Birmingham.
Paper: *The Diagnosis of Brain Tumors.*
Discussion: W. S. Littlejohn, Birmingham; R. V. Taylor, Jr., Mobile.
4. FRANK K. BOLAND,
Atlanta.
Paper: *The Treatment of Acute Intestinal Obstruction.*
5. W. C. HANNON,
Mobile.
Paper: *The Present Status of Fracture of the Hip: Motion Picture Demonstration.*
Discussion: Marcus Skinner, Selma; John Sherrill, Birmingham.
6. D. C. DONALD,
Birmingham.
Paper: *Acute Cholecystitis and Biliary Disease: Immediate and Delayed Treatment: Report of 62 Cases.*
Discussion: French Craddock, Sylacauga; C. W. C. Moore, Talladega.
7. CHAS. J. THUSS,
Birmingham.
Paper: *Skin Grafting and Reconstructive Surgery.*
Discussion: W. F. Harper, Selma; W. H. Blake, Sheffield.
8. JOHN L. CARMICHAEL,
Birmingham.
Paper: *Intra-Abdominal Adhesions: Some Problems in Diagnosis and Treatment.*
Discussion: R. K. Wilson, Carrollton; T. K. McFatter, Dothan.

Evening Session**Tuesday, April 16**

8:00 P. M.

**SECTION ON GYNECOLOGY AND
OBSTETRICS**Peacock Ballroom
Tutwiler HotelM. Y. Dabney, Birmingham, *Chairman*
H. B. Dowling, Mobile, *Secretary*

1. J. M. WELDON,
Mobile.
Paper: *Chronic Endocervicitis.*
Discussion: H. B. Dowling, Mobile; T. M. Boulware, Birmingham.
2. M. S. LEWIS,
Nashville.
Paper: *The Management of Placenta Praevia.*
Discussion: A. A. Wood, Mobile; J. E. Garri-
son, Birmingham.

3. E. D. COLVIN,
Atlanta.
Paper: *Maternal Mortality in the Southern States: Emphasis on the Causes and Prevention of an Increased Rate.*
Discussion: A. E. Thomas and J. F. Dillon, Montgomery.
4. J. R. GARBER,
Birmingham.
Paper: *The New Born as a Pediatric Entity.*
Discussion: Stewart Welch, Birmingham; Claud Johnson, Montgomery.

* * *

SECTION ON PEDIATRICSColonial Room
Tutwiler HotelH. G. Mulherin, Mobile, *Chairman*
W. R. Britton, Montgomery, *Secretary*

1. A. A. WALKER,
Birmingham.
Paper: *Prematurity.*
Discussion: A. C. Jackson, Jasper; D. P. Dixon, Talladega.
2. J. MAC BELL,
Mobile.
Paper: *Vomiting: Its Symptomatology.*
Discussion: John W. Simpson, Birmingham; N. B. Cannady, Dothan.
3. JAMES W. BRUCE,
Louisville, Ky.
Paper: *Lead Poisoning in Infancy.*
4. J. W. BRITTON,
Anniston.
Paper: *Treatment of So-Called Colitis with Sulfanilamide.*
Discussion: A. C. Gipson, Gadsden; Hughes Kennedy, Birmingham.
5. J. P. ROBERTSON,
Birmingham.
Paper: *Urinary Infections in Children.*
Discussion: Chas. Abbott, Tuscaloosa; J. U. Reaves, Mobile.

Morning Session**Wednesday, April 17**

8:30 A. M.

SECTION ON PUBLIC HEALTHPeacock Ballroom
Tutwiler HotelJ. D. Dowling, Birmingham, *Chairman*
J. L. Bowman, Montgomery, *Secretary*

1. NORMAN VAN WEZEL,
Montgomery.
Paper: *Collapse Therapy of Pulmonary Tuberculosis.*
Discussion: L. O. Davenport, Birmingham; Holland Thompson, Montgomery.

2. ROBERT B. GREENBLATT,
Augusta, Ga.

Paper: *Evaluation of the Various Gonadotropic Hormones: Their Application to Female Endocrine Disorders.*

3. E. S. SANDERSON,
Augusta, Ga.

Paper: *Laboratory Aids and Problems in the Diagnosis of Chancroid, Granuloma Inguinale and Lymphogranuloma Venereum.*

Discussion: W. H. Y. Smith and Frank Riggs, Montgomery.

4. L. L. HILL, JR.,
Montgomery.

Paper: *Planigraph: A Simple Method for Making True Radiographic Images of Selected Planes.*

Discussion: J. L. Smith, Montgomery; H. M. Simpson, Florence.

The section will adjourn at 10:45 A. M. for the Jerome Cochran Lecture.

* * *

SECTION ON EYE, EAR, NOSE AND THROAT

Colonial Room
Tutwiler Hotel

H. B. Searcy, Tuscaloosa, *Chairman*
W. D. Hardy, Birmingham, *Secretary*

1. B. FRANK JACKSON,
Montgomery.

Paper: *The Government's Aid-to-the-Blind Program.*

Discussion: F. H. Clements, Birmingham; H. B. Searcy, Tuscaloosa.

2. E. R. NODINE,
Andalusia.

Paper: *Modern Therapy of Sinus Disease.*

Discussion: T. F. Wickliffe, Jasper; R. M. Clements, Tuscaloosa.

3. WM. THORNWALL DAVIS,
Washington, D. C.

Paper: *Illustrated Lecture on the Treatment of Accommodative Squint.*

4. N. E. MILES,
Birmingham.

Paper: *Some of the More Recent Advances in Cataract Surgery.*

Discussion: H. W. Frank, Gadsden; C. E. Her-
rin, Cullman.

The section will adjourn at 10:45 A. M. for the Jerome Cochran Lecture.

* * *

GENERAL SESSION

11:00 A. M.

Peacock Ballroom
Tutwiler Hotel

JEROME COCHRAN LECTURE

- E. V. McCOLLUM, Ph. D.,
Baltimore.

Address: *Some Contributions of Nutritional Research to Clinical Medicine.*

Afternoon General Session

Wednesday, April 17

2:00 P. M.

Peacock Ballroom
Tutwiler Hotel

1. MERLE SMITH,
Parrish.

Paper: *Delivery Complicated by Cervical Mal-
ignancy.*

Discussion: M. Y. Dabney and K. F. Kesmodel,
Birmingham.

2. GROESBECK WALSH and R. M. POOL,
Fairfield.

Paper: *The Study of Handedness in Medicine.*

Discussion: C. M. Rudolph and J. B. McLester,
Birmingham.

3. C. A. GROTE,
Huntsville.

Paper: *Heart Disease in General Practice.*

Discussion: J. Harold Watkins, Montgomery;
W. G. Harrison, Jr., Birmingham.

* * *

The afternoon's program will be followed by a
visit to Slossfield.

Evening Session

Wednesday, April 17

8:00 P. M.

PUBLIC MEETING

Peacock Ballroom
Tutwiler Hotel

1. J. S. McLESTER,
Birmingham.

Address: *The Changing Picture of Disease in
the Southern States.*

2. W. A. EVANS,
Aberdeen, Miss.

Address: *The Doctor: What He Has Done and
What He Promises To Do.*

* * *

After adjournment there will be a reception
and dance at the Birmingham Country Club.

Last Day, Thursday, April 18

9:30 A. M.

Business meeting of the Association sitting as the
Board of Health of the State of Alabama.

(1) Report of the Board of Censors;

(2) Revision of the Rolls;

(3) Election and Installation of Officers.

OTHER EVENTS

Alumni Association

Medical Department
University of Alabama

The annual banquet meeting of the Alumni
Association of the Medical Department of the
University of Alabama will be held at 6:00 P. M.,
Wednesday, April 17, at the Tutwiler Hotel. The
guest speaker will be Dr. W. A. Evans of Aber-
deen, Miss., formerly Commissioner of Health of
the City of Chicago.

* * *

The members of the Association and visiting
physicians are invited to have tea with Dr.
James S. McLester, Dr. James B. McLester and
Dr. Wilmot S. Littlejohn at 5:00 P. M., Wednes-
day, April 17th, at 930 South 20th Street.

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF LABORATORIES

Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

IN THE YEAR 1939

Examination for diphtheria bacilli and Vincent's	11,774
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	8,514
Typhoid cultures (blood, feces and urine)	12,539
Examinations for malaria	26,548
Examinations for intestinal parasites	63,285
Serologic tests for syphilis (blood and spinal fluid)	217,437
Darkfield examinations	415
Examinations for gonococci	19,243
Examinations for tubercle bacilli	18,465
Examinations for Negri bodies (microscopic)	849
Water examinations (bacteriologic)	10,529
Milk examinations	24,665
Pneumococcus typing	794
Miscellaneous	12,493
Total specimens	427,550

JANUARY 1940

Examination for diphtheria bacilli and Vincent's	559
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	331
Typhoid cultures (blood, feces and urine)	433
Examinations for malaria	665
Examinations for intestinal parasites	3,849
Serologic tests for syphilis (blood and spinal fluid)	15,229
Darkfield examinations	51
Examinations for gonococci	1,480
Examinations for tubercle bacilli	1,125
Examinations for Negri bodies (microscopic)	51
Water examinations (bacteriologic)	588
Milk examinations	1,825
Pneumococcus typing	125
Miscellaneous	1,192
Total specimens	27,503

THE EVALUATION OF SERODIAGNOSTIC TESTS FOR SYPHILIS¹

A method for the evaluation of serodiagnostic tests for syphilis, in the United States, was first worked out in 1934 by a committee of two clinical pathologists, two syphilologists and two officers of the U. S. Public Health Service. Each step in the evaluation

plan was decided on with the idea of duplicating the actual procedure that occurs when the physician in private practice collects and forwards his specimens of blood or spinal fluid to a serologic laboratory for examination.

The plan ultimately decided upon consisted of the collection of samples of blood and spinal fluid from donors in various categories and the distribution of these samples from central points of collection to the laboratories of participating serologists. The serologists in this country who had described an original serologic test or a modification of some test were invited to enter the evaluation study and practically all of them accepted the invitation. The purpose of the study was, therefore, to appraise separately the various original and modifications of complement fixation and flocculation or precipitation tests. In this way the committee felt that it would be possible to measure fairly and without partiality the efficiency of the various procedures and to determine the most valuable tests or combinations of tests.

In the collection of specimens sufficient blood or spinal fluid was to be taken to furnish ample and comparable samples to each participating serologist. Donors of these specimens were carefully chosen and accurate records were kept of all pertinent facts in the history and physical examination. Care was also taken to insure that donors would be subsequently available for clinical examination in the event that disparities were found in the laboratory reports of the participants. Reports were to be submitted by the serologists at regular intervals and were to be immediately compared with the clinical diagnoses of the donors. The final evaluation was to take place after all the serologic examinations were completed.

The donors of spinal fluid specimens were drawn from two classes—non-syphilitic patients from hospitals and clinics for nervous and mental disorders in whom non-syphilitic disease of the central nervous system existed, and a group of neurosyphilitic patients from similar institutions.

Donors of blood in the early primary syphilis group were of the male sex with untreated primary syphilis in the chancre

1. Cumming, H. S., et al.: The Evaluation of Serodiagnostic Tests for Syphilis in the United States, J. A. M. A. 103: 1705, 1934.

stage. It was required of these donors that the initial lesion be darkfield positive and of not more than four weeks' duration. Blood specimens were taken before the appearance of any secondary manifestations of syphilis.

Specimens were collected from donors with acute febrile disease only when the oral temperature was 100° F. or higher.

Reporting of all tests was to be made to the committee by the various serologists on a prescribed form and the results of all tests were required to be expressed as "positive," "doubtful" or "negative."

The evaluation of the serologic results was arrived at in the following way:

- 1. The percentage of *specificity* of any given blood test was estimated from the presumably non-syphilitic patients and individuals.
- 2. The *specificity* of spinal fluid tests was estimated from the specimens of spinal fluid from presumably non-syphilitic patients.
- 3. The percentage of *sensitivity* of any given blood test was estimated from the known syphilitic patients.
- 4. The *sensitivity* of spinal fluid tests was estimated from the specimens of spinal fluid from the syphilitic patients.
- 5. The doubtful reports were evaluated as a separate group on the basis of specificity and sensitivity as judged by careful clinical examination and history.

In addition to specificity and sensitivity other factors were taken into account (such as ease and rapidity of performance, adaptability and cost) in arriving at a conclusion regarding each different procedure.

(To be continued)

BUREAU OF PREVENTABLE DISEASES
D. G. Gill, M. D., Director

DISEASES REPORTED DURING 1939

The record of communicable diseases in the State during 1939 is revealed in the following tabulation:

	1939	1938	Median 1931-39
Typhoid fever	302	403	491
Typhus fever	472	341	341
Malaria	6,986	6,006	6,006
Undulant fever	59	59	45
Smallpox	26	75	48
Measles	4,529	13,791	4,529
Scarlet fever	1,194	859	879
Whooping cough	1,901	1,872	1,652
Diphtheria	922	1,095	1,169

Influenza	17,271	5,149	14,535
Mumps	1,000	909	1,074
Poliomyelitis	45	99	57
Encephalitis	25	28	28
Chickenpox	1,372	1,657	1,372
Tetanus	54	65	57
Tuberculosis	2,943	2,784	3,141
Tularemia	22	9	15
Pellagra	243	585	563
Meningitis	90	238	90
Pneumonia	3,913	3,915	3,913
Syphilis	18,383	22,405	7,346
Chancroid	59	100	67
Gonorrhea	3,714	3,620	3,570
Ophthalmia	12	9	15
Trachoma	0	1	3
Cancer	902		

Certain records for the year are outstanding. For example, a new all-time low for typhoid fever is revealed by the 302 cases reported. The previous low was established in 1937 so it is encouraging to see 1938's upswing reversed. Diphtheria also established a new low in reported cases but the incidence is still high. Smallpox, poliomyelitis and meningitis were other major diseases showing an incidence below that of the previous year and equal to or below the expected incidence as revealed by the experience of the preceding nine years. Pellagra is admittedly very poorly reported but the number of cases on record is the lowest since records are available beginning in 1923.

A few diseases were above normal in incidence. Malaria showed a slight increase, while influenza was particularly prevalent during the closing weeks of the year. Scarlet fever and whooping cough were above normal as was typhus fever. This latter disease is showing a tendency to spread to previously uninfected areas so that the problem of control is becoming more difficult.

Cancer was declared a reportable disease during the year and 902 cases were reported during the last seven months.

LATE LATENT SYPHILIS

Syphilis infection of more than your years' duration without signs or symptoms of the infection except the repeated positive blood test may sometimes offer problems in treatment management. Early latent syphilis, infection of four years or less in duration, should be treated as early syphilis by a standardized routine since the individuals are usually young and robust and the infection, as a rule, has not had sufficient time

to do extensive or serious damage. However, the routine treatment may have to be modified in elderly patients with early syphilis, primary, secondary and early latent, since constant heavy pounding with drugs may place too great a strain on aging vital organs.

In elderly patients who have had syphilis for many years with only the repeated positive serologic test as evidence of infection, very mild treatment or none at all is, probably, all that should be done.

Certainly latency of long standing in elderly patients means a delicate balance has been reached and maintained between the invading spirochetes and the bodily immune mechanism. To disturb this balance by the injection of powerful antiluetic drugs may be the force that propels the patient into a serious late manifestation of syphilis or into the grave. If any drugs are used they should be the mildest antiluetic drugs, such as potassium iodide by mouth or small amounts of mercury ointment by inunction. Each case will have to be studied to decide whether treatment should or should not be given. However, a person of 50 or over whose syphilitic infection is latent and has been latent for 20 or 30 years certainly should not be treated.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

STANDARDS FOR THE ESTABLISHMENT AND CONTINUATION OF MATERNITY CLINICS

In order that maternity clinic services may be uniform throughout the State, it is necessary that standard procedures be adhered to at each clinic established under the auspices of county health departments utilizing Social Security Funds spent through the Children's Bureau.

The following standards are the basis for which the establishment and continuation of maternity clinic work will be approved:

1. A maternity clinic session as defined in Section 7 of these standards is for the purpose of rendering medical examination and advice to maternity patients (antepartum and postpartum).

2. The clinicians must be graduates of recognized medical schools and be licensed to practice in the State of Alabama. A rotation of service should be not less than three con-

secutive months. The society may appoint someone to act as clinician for a longer specified time.

3. A clinician must be present at each session. Whenever he cannot attend the clinic, arrangements should be made for someone to take his place.

4. The clinician will be responsible for the keeping of the clinic records on antepartum and postpartum patients.

5. The fee (honorarium) shall be \$5.00 for a clinic session except in the case of the health officer or the consultant. The voucher will be made out for the attending physician by the health department.

6. Eligibility of patients:

a. Midwife cases

b. Indigent cases (to be defined by each locality through cooperation of local agencies).

c. Cases referred by physicians.

7. Number of patients attending clinics will depend upon provisions of Section 6, the accessibility of patients to the clinic center, and the activities of the local public health nurses.

a. Minimum attendance.

An average of five patients (rural—under 2,500 population) or ten patients (urban) per clinician, per clinic session, over a period of three consecutive months will be required for continuation of the clinic.

b. Maximum attendance.

When a maternity clinic averages twenty patients per clinician, per clinic session, over a period of six months, recommendation will be made, upon request of the county health officer, that, beginning with the next budget period, the clinic session will be divided into two and thereby an extra session will be provided.

8. Antepartum and postpartum medical supervision is based on the approved requirements as set forth by the Committee on Maternal and Infant Welfare of The Medical Association of the State of Alabama and as outlined in the "Prenatal Care" bulletin of the Children's Bureau, and approved by the State committee.

9. Postpartum examination is to be given at each maternity clinic center six to eight weeks following delivery. These examinations (bimanual and speculum) are a part of the maternity service, and done for the purpose of early detection of abnormal conditions which may follow delivery.

10. The clinician will not be responsible for the delivery of any patient attending the maternity clinic unless the patient makes specific arrangements with him in his own office. It shall be the responsibility of the public health nurse to see that the patients understand that the medical supervision in a maternity clinic carries no responsibility for delivery care.

E. F. D.

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E., Director

TRENDS IN ENVIRONMENTAL SANITATION IN 1939

The health departments—state and county—have continued to make progress in 1939 in the broad field of environmental sanitation. Both accomplishments and needs have been under examination.

Water supplies and sewers have been farther extended in municipalities. With each extension our enteric morbidity rate will decline further. A method of supplemental water-plant operator instruction has been sought but at present existing difficulties have not yet been overcome. It is desirable that they be. Additional responsibilities in connection with railway coach yard water supply certification have been assumed. Auxiliary municipal sanitation, such as septic tanks and sanitary privies, is increasingly coming to be regarded as primarily a municipal function, the health department assuming a minor, rather than a major, role.

Rural needs have been examined and an effort made to correct the fundamental weakness. To correct it will call for an expansion of powers of county government which must be granted by the legislature. This may be brought about through a clear presentation of the limitations of health departments by the local units. Demonstration in rural sanitation has been made in a majority of the counties through the Farm Security Administration. This federal rural program has again been mutually considered and prepared for by instructions sent groups of workers of both organizations.

An outbreak of gonorrhea at a grade school, using non-standard privy seat construction, has again focused attention on this problem in pit privy design. Chemical

examination of pit condensation has thrown light on paint characteristics needed in seat and lid protection. A search for a more suitable coating is indicated.

Malaria control through WPA operation has continued with diminishing intensity. Constantly increasing restrictions have been, in the main, successfully met. Refinements in planning and construction have been inaugurated.

Impounded water malaria hazards have markedly increased. This trend will continue. Investigational work by Auburn has confirmed the fundamental requirements of this department as they apply to pond construction and maintenance to be in the interest of the fish culturist.

Work done by the Tennessee Valley Authority, the Bureau of Fisheries, the U. S. Biological Survey and the State Department of Conservation is to be continued, so as actually to determine the truth or fallacy of many claims made by conservationists in connection with the impoundment and control of water, which now do not rest on scientific facts or observations.

The department's procedure in impounded water certification and control is in process of simplification and revision. Plans for additional early training of county sanitation personnel in the principles and practices of malaria control are in evolution. More definite and intimate integration of this with other county activities is indicated.

Definition of the malaria engineering problem in the Tennessee Valley is taking shape and initial steps have been taken to bring to the consciousness of this region the problem through education. Possibilities of broader application of this program can be visualized.

Typhus fever control continues by means of rat extermination. Rat-proofing could not be continued because of recent policies of the WPA. Extermination has been restricted to communities under 2,500, except where local funds have been made available for the total cost. Possibilities of a more definite laboratory diagnosis technique, plus vaccine developments, are being considered with interest. Present practices of typhus control appear sporadic rather than organized.

Milk and meat control have been analyzed, looking to readjustments. Food control has been defined, strengthened, and was being

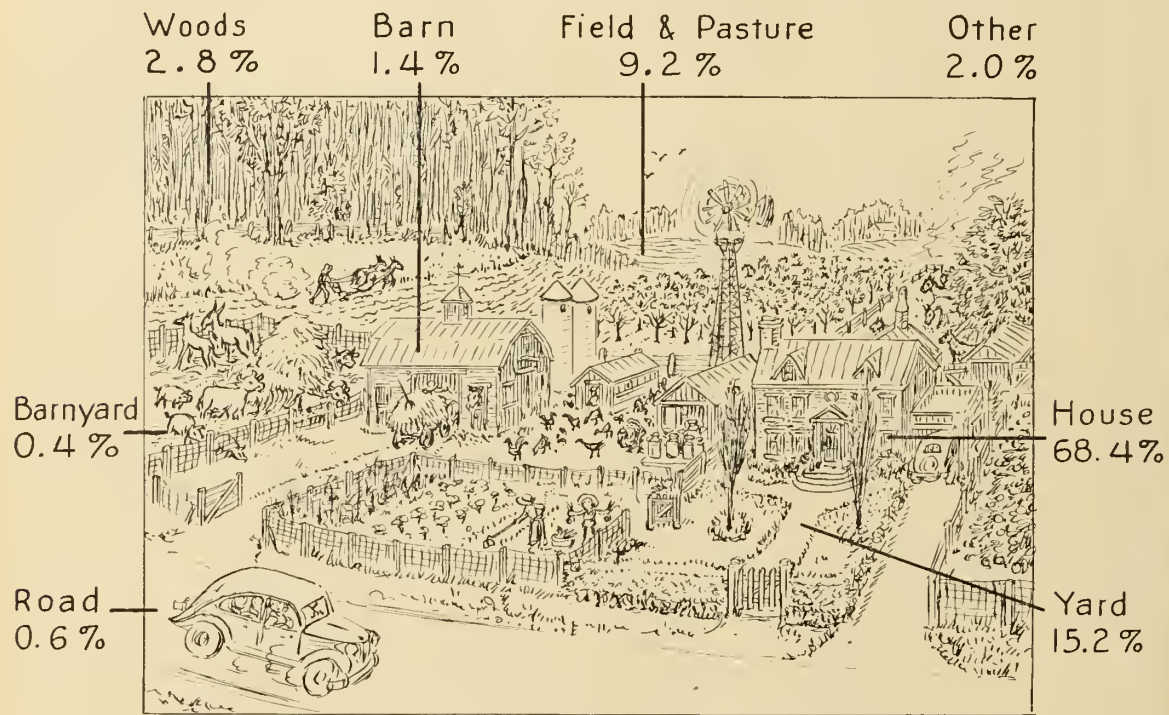
integrated more fully into county health work during 1939. Oyster certification presented fundamental difficulties imposed by the U. S. Public Health Service. These were evaluated, have been taken cognizance of by the Service, and a more rational and practical procedure can be expected.

Reorganization of the State Health De-

partment district contacts has been studied for further action.

Sanitation officer personnel has received further training and strengthening.

The trends and events noted appear to be leading definitely in the direction of better service to the people of the State.



LOCATION OF FARM ACCIDENTS

BUREAU OF VITAL STATISTICS

Leonard V. Phelps, S. B. in P. H., Director

LOCATION OF FATAL FARM ACCIDENTS

The Bureau of Vital Statistics of the Alabama State Health Department has completed a study of fatal farm accidents occurring in Alabama over the six-year period, 1933-1938. Particular attention was given to the place of occurrence of the accident. The house was the most frequent place of occurrence. Eleven hundred fifty-two fatal accidents (68.4 per cent) happened in the house; 257 (15.2 per cent) in the yard; and 155 (9.2 per cent) in the field or pasture.

The deaths from accidents on the farm were divided, for the purpose of this study, into two groups—"farm industrial" and "farm home." The "farm industrial" group included deaths from accidents where the person was gainfully employed in farming

pursuits at the time of the accident. The "farm home" group included deaths of those persons who resided on farms but who were not gainfully employed at the time the accident occurred. Two hundred sixty-five

LOCATION OF FATAL FARM ACCIDENTS ACCORDING TO WHETHER "HOME" OR "INDUSTRIAL"

ALABAMA, 1933-1938

Location	Total Farm		Farm Home		Farm Industrial	
	Num-ber	Per Cent*	Num-ber	Per Cent*	Num-ber	Per Cent*
Total	1859	100.0	1594	100.0	265	100.0
House	1152	68.4	1150	79.0	2	0.9
Yard	257	15.2	232	16.0	25	10.9
Barn	24	1.4	.....	.....	24	10.4
Barnyard	6	0.4	.....	.....	6	2.6
Field and Pasture	155	9.2	39	2.7	116	50.4
Woods	47	2.8	3	0.2	44	19.1
Road (Not highway)	10	0.6	.....	.....	10	4.4
Other	34	2.0	31	2.1	3	1.3
Unknown	174	.....	139	.....	35	.....

*Based on numbers exclusive of those of unknown location.

fatal accidents were recorded as farm industrial and 1,594 as farm home in the six-year period, 1933-1938. See the accompanying table.

Considering the farm industrial group, it was found that 116 (50.4 per cent) of the accidents occurred in the field or pasture. The accidents resulted from activities such as plowing, clearing land, hoeing, etc. Forty-four (19.1 per cent) happened in the woods and were usually the results of cutting and sawing trees. Twenty-five (10.9 per cent) occurred in the yard and 24 (10.4 per cent) in the barn. These accidents usually involved animals and vehicles, but some were due to lightning.

The fatalities recorded in the farm home group were distributed as follows: 1,150 (79.0 per cent) in the house; 232 (16.0 per cent) in the yard; and only 39 (2.7 per cent) in the field or pasture. Many of the accidents occurring in the house and yard involved falls down steps and stairs, burns from open fires, scalds, gunshot wounds, poisons from food and lye and suffocations.

J. W.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

	Dec. 1939	Estimated Expectancy	
		Jan. 1940	Jan. 1940
Typhoid	4	4	14
Typhus	32	16	18
Malaria	145	75	63
Smallpox	2	0	4
Measles	56	157	434
Scarlet fever	218	104	89
Whooping cough	76	50	121
Diphtheria	143	52	86
Influenza	2911	4319	1180
Mumps	44	56	127
Poliomyelitis	3	4	3
Encephalitis	1	1	2
Chickenpox	143	123	314
Tetanus	3	4	3
Tuberculosis	245	133	209
Pellagra	12	10	12
Meningitis	6	6	10
Pneumonia	662	800	605
Ophthalmia neonatorum	0	0	1
Trachoma	0	0	0
Tularemia	1	3	2
Undulant fever	7	2	2
Dengue	0	0	0
Amebic dysentery	2	1	0
Cancer	144	137	0
Rabies—Human cases	1	0	0
Positive animal heads	17	16	....

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

Medical News

(Secretaries of county medical societies and other physicians will confer a favor by sending for this section of the Journal items of news relating to society activities.)

The best equipped small hospital in Alabama today is the boast made by Alabama Polytechnic Institute of its recently completed \$100,000 infirmary.

A brick two-story structure with east, west and south wings, the student hospital is furnished with 60 beds, operating rooms,



The Auburn Infirmary

laboratory, x-ray equipment and treatment rooms.

Dr. J. W. Dennis, medical director, has a staff of nine persons assisting in running the infirmary. Miss Daisy Cullars, R. N., is superintendent, and Marlin Fitts runs the x-ray and is laboratory technician.

On the first floor at the main entrance is a spacious lobby and the superintendent's of-



Waiting Room

fice. Hanging in the lobby is a large picture of the late Dr. J. H. Drake, college physician for many years. In the east wing of the first floor are located the girls' ward furnished with eight beds and also several private rooms and semi-private rooms with connecting baths. Also in the same wing are three bedrooms and a living room for the nurses' quarters, and quarters for the laboratory technician.

In the west wing of the first floor are located the offices of Dr. Dennis, out-patients' room, treatment room, x-ray room, laboratory, waiting room for student clinic, sterilizer room, scrub-up room, operating room for tonsillectomies, and large operating room. The large operating room is equipped with overhanging, movable operating lamp, and all modern facilities.

X-ray equipment in the infirmary is valued at \$2,500. The new machine is a Westinghouse model, Pandex 100 ma x-ray unit, with all the latest devices.

On the second floor are two boys' wards with 16 beds each and a number of private and semi-private wards. There are diet kitchens on each floor and numerous linen lockers and equipment closets. An elevator runs from the basement where the main kitchen is located to the second floor.



A Ward

The basement not only is the location of the large hospital kitchen, but also is the location of the nurses' dining room, serving room, and dining room for orderlies.

Cost to students of hospitalization is \$1.50 a day in the wards, \$2.00 for semi-private rooms and \$2.50 for private rooms. This cost includes room and board.

In addition to Miss Cullars and Mr. Fitts, Dr. Dennis' staff is composed of Miss Bessie Lowe, in charge of out-patients' room; Miss Nell McClendon, graduate duty nurse; Mrs. C. G. Bramblette, graduate duty nurse; Mrs. Bessie Loosen, hostess; one orderly, two cooks and a maid.

When the ambulance, which was recently ordered, arrives for use, college authorities feel that the Auburn infirmary will be complete in every detail.

Truth About Medicines

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Sterile Isotonic Solution Thiamin Chloride-Abbott, 100 mg., 10 cc. Bottle.—Each cubic centimeter contains thiamin chloride (The Journal, March 25, 1939, p. 1157) 0.01 Gm. (3,000 international units), sodium chloride 0.0057 Gm., and chlorobutanol (derivative of chloroform) 0.005 Gm. in chemically pure water. Abbott Laboratories, North Chicago, Ill.

Sterile Solution Thiamin Chloride-Abbott, 250 mg., 5 cc. Bottle.—Each cubic centimeter contains thiamin chloride (The Journal, March 25, 1939, p. 1157) 0.05 Gm. (15,000 international units) and chlorobutanol (derivative of chloroform) 0.005 Gm. in chemically pure water. Abbott Laboratories, North Chicago, Ill.

Tablets Thiamin Chloride-Abbott, 6 mg.—Each tablet contains 2,000 international units of thiamin chloride (The Journal, March 25, 1939, p. 1157). Abbott Laboratories, North Chicago, Ill. (J. A. M. A., Jan. 20, 1940, p. 249).

Mixed Grass Concentrated Pollen Extract—Abbott (Blue Grass, Timothy, Orchard Grass, Red Top, and Sweet Vernal Grass in equal parts). Abbott Laboratories, North Chicago, Ill.

Thiamin Chloride Tablets—Stearns, 1.0 mg.—Each tablet represents 333 U. S. P. units of thiamin chloride (New and Nonofficial Remedies, 1939, p. 498). Frederick Stearns & Co., Detroit, Mich.

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following devices have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Liebel-Flarsheim SW-P Short Wave Generator.—This unit is designed for medical and minor surgical diathermy. It is a portable model in a carrying case, provided with a handbag for accessories and a special cabinet to contain the unit during office use. The net weight of the unit itself is 45 pounds, the net weight of the unit in the cabinet 112 pounds. The unit was investigated by the Council clinically and found satisfactory for clinical practice. The Liebel-Flarsheim Company, Cincinnati. (J. A. M. A., Jan. 6, 1940, p. 41).

Maico Audiometer, Model D-5.—This audiometer is designed for the measurement of the acuity and range of hearing. The unit weighs 24½ pounds and is 17 by 10 by 8 inches in size. Separate units are supplied for alternating and direct current. Tests were conducted by operating the audiometers with 60 cycles alternating current at 115 volts. The instrument complied with the specifications of the Council in respect to range of frequency of test tone, control of intensity, accuracy of frequency, audiometer calibration, purity of tone, and extraneous noise. The Maico Company, Inc., Minneapolis, Minn. (J. A. M. A., Jan. 13, 1940, p. 139).

Wappler Tube-Gap Radio Knife.—The Wappler Tube-Gap Radio Knife is an electrosurgical unit providing either vacuum tube or spark-gap current. It is available in a portable or cabinet housing. Standard accessories include the following electrodes: blade, for dissection; loop, for excavation; smaller loop, for same purpose; needle, for coagulation, and a blade designed for ionization of the cervix. Two types of unit are available of the cabinet size; one is operated by floor-switch, the other by manual control. Current is available for simultaneous cutting and coagulation, either in air, under water or in blood. One drawback in the tube circuit as well as in the gap-coagulating current in the portable model is that its intensity is fixed and cannot be varied for different operations except by jumping from heavy coagulation with a biterminal

current to superficial coagulation with a uniterminal current. This is not true for the cabinet models. In the cabinet model, only the intensity of the tube coagulating current is fixed. Complex Division, American Cystoscope Makers, Inc., Bronx, New York. (J. A. M. A., Jan. 27, 1940, p. 326).

PROPAGANDA FOR REFORM

Vitamin P.—In 1936 Szent Gyorgi and his collaborators established the presence in extracts of Hungarian red pepper and later in lemon juice of substances other than ascorbic acid which could control the hemorrhage that occurs in the course of a variety of conditions. Ascorbic acid, even in excess, was ineffective. Later it was reported from the same laboratory that fractionation of the curative extracts had demonstrated that the active substance was present in a fraction consisting of practically pure flavone or flavone glucoside. The name vitamin P was given to the substance responsible for the action on vascular permeability. The flavones should not be confused with the flavins, one of which, in combination with carbohydrate, is vitamin B₂. The claim for the vitamin-like nature of the flavones appeared to be supported by the experimental demonstration in guinea pigs of an increased survival time in animals on a scorbutic diet that received supplements of vitamin P concentrates. There were fewer hemorrhages present at necropsy in the treated animals than in control guinea pigs that received the unsupplemented diet. However, efforts to confirm these data in experimental animals yielded conflicting results. Further clinical data are now available in the recent experiments of Scarborough. The patients used in this investigation all had abnormally increased capillary fragility, which appeared to be definitely related to a dietary deficiency. The degree of capillary fragility was established for each case and the diet then adjusted to contain supplements of either fresh fruit, a mixture of vitamins A (oral), B₁ (parenteral), C (oral) and D (oral), a crude flavone fraction from orange juice, a purified flavone preparation, or a solution of flavones prepared from orange peel according to the method of Szent-Gyorgyi. A definite increase in the resistance of capillary walls to the application of pressure (both negative pressure, suction and positive pressure tests were employed) was ob-

tained only in those instances in which the flavone-containing extracts were employed. The administration of ascorbic acid by mouth or by injection failed to produce this beneficial effect. The experiments of Scarborough appear to establish more definitely the possible existence of a dietary factor that is essential for the maintenance of capillary resistance. (J. A. M. A., Jan. 6, 1940, p. 43).

Acceptance of Sunlamps.—After extensive investigation and inquiry, the Council on Physical Therapy has adopted and, until a more practical procedure is proposed, will use the erythema reaction as a basis for judging the effectiveness of ultraviolet lamps for two important reasons: (1) In the case of exposure to intense sources of ultraviolet radiation it is a simple and practical means of preventing severe burns, and (2) in the case of weak sources of ultraviolet radiation it is an efficient safeguard against possible fraudulent sale of lamps that are deficient in ultraviolet radiation. The chief difference between sunlamps and therapeutic lamps is that the spectral radiation characteristics of acceptable sunlamps are such that they are suitable for home use without the supervision of a physician, whereas therapeutic lamps have spectral emission characteristics which necessitate professional supervision or control to avoid hazards of over-exposure. In accepting sunlamps, the Council requires physical evidence of their production of energy from 2,800 to 3,200 angstroms in wavelength at an intensity sufficient to produce a minimum perceptible erythema on the average untanned skin in not more than sixty minutes at a minimum acceptable operating distance of 24 inches. It has been demonstrated both clinically and experimentally that adequate ultraviolet energy between 2,800 to 3,200 angstroms plays an important role in deposition of calcium and may prevent rickets and may be an effective aid in promoting the soundness of bones and teeth. There is no warrant for the claim, however, that ultraviolet rays will insure normal tooth structure or that ultraviolet rays will prevent dental caries. Direct exposure of the skin to ultraviolet rays from the sun or from artificial sources results in the formation of vitamin D within the organism but the Council cannot recognize statements or implications that vitamin D has all the beneficial effects of exposure to sunshine. Ad-

vertising claims for sun lamps containing statements that exposure to ultraviolet radiation increases or improves the tone of tissues of the body as a whole, stimulates metabolism, acts as a tonic, increases mental activity or tends to prevent colds are not acceptable to the Council. (J. A. M. A., Jan. 27, 1940, p. 325).

Chappel Liver Extract Oral, Chappel Liver Extract Subcutaneous and Chappel Liver Extract Concentrated Intramuscular Omitted from N. N. R.—The Council on Pharmacy and Chemistry reports that three dosage forms of Chappel Liver Extract manufactured by Chappel Laboratories, Rockford, Ill., have stood accepted in New and Non-official Remedies for a number of years. The firm recently inquired whether or not products would maintain an accepted status if they were distributed by a firm which has no product accepted in N. N. R. and which is not considered acceptable by the Council. The firm was informed that the Council could not countenance the distribution of products by firms which have not been recognized by the Council. Under date of October 24 the Council was informed of an announcement to the drug trade that the preparations of Chappel Laboratories would be distributed by a firm not recognized by the Council. The Council, therefore, under its rules, rescinds acceptance of Chappel Liver Extract Oral, Chappel Liver Extract Subcutaneous and Chappel Liver Extract Concentrated Intramuscular and announces their omission from New and Nonofficial Remedies. (J. A. M. A., Feb. 24, 1940, p. 661.)

Comparative Value of Serum Therapy and Chemotherapy in Pneumococcic Pneumonia.—A detailed discussion of the value of the various types of pneumococcus serums in comparison with the value of sulfa-pyridine in the treatment of pneumococcic pneumonia. The clinical evidence furnished thus far establishes the efficacy of both serotherapy and the new chemotherapy in lowering the death rate from pneumococcic pneumonia. The relative value of the two methods and the indications for their employment, as well as for the combined use of the two, await further clinical studies. (J. A. M. A., Feb. 24, 1940, p. 662.)

CALORIE COMPUTATIONS



Joe Splivens shops for vitamins—No need to buy extra vitamins* if the baby's food is S. M. A.



Vitamins A, B₁ and D are included in S.M.A. in quantities sufficient to meet the needs of the normal infant. Only the addition of vitamin C, as supplemented by orange juice, is required, just as it is for breast-fed infants.

When diluted according to directions, each quart of S.M.A., ready to feed, provides not less than 200 International Units of vitamin B₁, 7500 U.S.P. units of vitamin A activity, of which approximately 333 U.S.P. units are in the form of Pro-vitamin A (200 gamma of carotene) and not less than 400 U.S.P. units of vitamin D in the form of cod liver oil.

*Except vitamin C

NORMAL INFANTS RELISH S.M.A. — DIGEST IT EASILY AND THRIVE ON IT

S. M. A. is a food for infants—derived from tuberculin-tested cow's milk, the fat of which is replaced by animal and vegetable fats including biologically tested cod liver oil; with the addition of milk sugar and potassium chloride;



altogether forming an antirachitic food. When diluted according to directions, it is essentially similar to human milk in percentages of protein, fat, carbohydrate and ash, in chemical constants of the fat and physical properties.

S. M. A. CORPORATION • 8100 McCORMICK BOULEVARD • CHICAGO, ILLINOIS

Miscellany

THYROID OVERSECRETION NEEDS EARLY AND ACCURATE DIAGNOSIS

DELAY, INDECISION OR ERROR MAY RESULT IN
RAPID DAMAGE TO VITAL ORGANS,
PHYSICIAN WARNS IN *HYGEIA*

The importance of early and accurate diagnosis of oversecretion of the thyroid cells is emphasized in *Hygeia*, *The Health Magazine* for March by Paul A. White, M.D., Davenport, Iowa, who points out that delay, indecision and wrong diagnosis may result in damage to the vital organs in a very short time.

Surgical removal of the thyroid, when possible, is the best method of treatment for this condition, he says. Administration of iodine will usually improve the patient enough so that operation is safe.

Describing the thyroid gland, its functions and its diseases, Dr. White says: "The thyroid lies in the front of the neck and consists of two lobes or bodies which rest on each side of the trachea or windpipe. Unlike the other secreting glands, it has no ducts carrying its secretion to the surface or to internal locations in the body; instead, it pours its product directly into the blood stream. The function of this secretion is one of the most spectacular and dramatic of any of the activities going on in the body. It acts like the draft on a furnace, the spark in the cylinder of a car or the governor on an engine. This secretion plays an important role in the production of heat and energy; it is the intermediary between the oxygen we breathe and the food substances we absorb in the tissues at the time of their combustion. The rate of combustion is therefore dependent on the amount and quality of this secretion.

"Too much secretion induces a dynamic state of excitation and overwork, with consequent exhaustion in the body's tissues and vital organs. Too little secretion produces an opposite state of lethargy, reduced activity and stagnation in the body's important processes.

"If a child is born with very little or no thyroid tissue, it will be dull, listless and dwarfed and will exhibit all the signs just given for slow bodily combustion. These children are called cretins.

"During adolescence, often the stress of rapid development and a lack in food and drink of sufficient iodine, which is an important element in the thyroid secretion, may induce enlargement of the thyroid gland. This type of enlargement does no harm physically and usually disappears by the age of 25. It should not be operated on unless it produces disfigurement.

"We see nodular enlargements of the thyroid gland frequently. They may exist for years without seeming to make any trouble, except for their appearance. Lumpy nodular thyroids had better be removed by surgery before they give trouble and certainly on the slightest show of causing too much combustion in the body.

"Finally, the most spectacular, dramatic and also most dreaded condition affecting the thyroid gland occurs when its individual cells increase in size and number and secrete too much. This condition may arise rapidly. Nervousness, tremor, sweating, pounding heart and ravenous appetite are all present. Loss of weight and prominent eyes will signal to even the least medically minded relatives and friends that something is radically wrong."

SUGGESTS USE OF ELECTROCARDIOGRAM TO DETECT CORONARY DISEASE

The possibility that the electrocardiogram, a graphic tracing of the electric current produced by the activity of the heart, may provide early detection, and thus make possible the control of coronary heart disease (of the blood vessels supplying the heart muscle) before the appearance of symptoms is suggested by Harry J. Johnson, M.D., New York, in *The Journal of the American Medical Association* for Feb. 17. He reports on a study of 2,400 apparently healthy men, only 33.8 per cent of whom were found to have normal heart contractions.

"The only means available at present by which the presence of coronary disease can be detected before symptoms are present is by the electrocardiogram," he says. "Although one is not justified in attempting to diagnose heart disease from an electrocardiographic tracing alone, changes in the coronary circulation frequently occur which can be detected by electrocardiogram long before symptoms or signs become apparent."

THE JOURNAL

of

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Published Under the Auspices of the Board of Censors

Vol. 9, No. 10

Montgomery, Alabama

April 1940

JAMES MARION SIMS

FATHER OF MODERN GYNECOLOGY*

By

M. Y. DABNEY, M. D.
Birmingham, Ala.

Alabama's greatest native son in the field of medicine was General William C. Gorgas (1854-1920), who was not a practitioner of clinical medicine. But the greatest physician ever to practice within the borders of our State was Dr. James Marion Sims (1813-1883).

Of English and Scotch-Irish descent, Sims was born near the boundary line between North and South Carolina, in the same general region that produced Andrew Jackson. The birthplace was a farm near Lancaster, S. C., where Sims first saw the light on January 25, 1813, during our second war with England, fifteen years after the death of George Washington, two years before the birth of Crawford W. Long and four years after Ephraim McDowell's epoch-making ovariectomy.

Sims' father served in the War of 1812-14; and the Doctor states that he recalls having heard his great-grandfather say that he was present at Braddock's defeat.

EDUCATION

The elder Sims learned to read and write after he was married, which made him all the more anxious that his son Marion should be well educated.

After finishing the neighborhood schools, Sims entered South Carolina College at Columbia, now the University of South Carolina, where he received his degree in 1832

*Delivered in Montgomery at the unveiling of the James Marion Sims monument by The Medical Association of the State of Alabama, April 19, 1939.

at the age of twenty. Against the wishes of both parents, he began the study of medicine in 1833 at Charleston Medical College. The second year he took at Jefferson Medical College, Philadelphia, from which he was graduated in 1835. It is of interest to note that at one time before the War Between the States there were more Southern students at Jefferson than men from the North.

PRACTICE IN LANCASTER

Back home to Lancaster he went to begin practice but met bitter disappointment, for his first two patients were infants suffering from what was once called "summer complaint." After the prompt death of both of them, in despair he took down his "shingle," a piece of tin some two feet long, and threw it into an abandoned well. Later generations in Lancaster searched in vain to locate that well; and only in recent years was it discovered, sealed over in the brick foundation of an old building that was being wrecked.

PRACTICE AT MT. MEIGS AND CUBAHATCHEE CREEK

At twenty-two, disgusted with himself, he turned to Alabama, where he journeyed on horse-back for three weeks before reaching Mt. Meigs, twelve miles from Montgomery, Alabama, and there remained one year, when an offer of partnership took him to Macon County in a swampy section near Cubahatchee Creek, where several severe attacks of malaria all but cost him his life.

PRACTICE IN MONTGOMERY

In 1840, harassed by malaria and in search of a more healthful spot, he moved to Montgomery, then a sleepy little river town of about 4,000 people, a third of whom were Negroes. It had no paved streets or sidewalks; and brawls and public drunkenness punctuated the night life of the village. The new state was but twenty-six years of age.

Montgomery had only recently been chosen its capital; and where the Capitol now stands was known as Goat Hill. Imprisonment for debt had been abolished but one year. There was only one railroad into Montgomery, a wood-burner, of course. It was the hey-day of river transportation and stage coaches, and there was no mail collection or deliveries. It was the dynasty of the fleecy staple, for cotton was truly king. Tallow candles were the chief means of illumination, and goose quill pens had not been replaced by the steel variety. In therapeutics, quinine and calomel were without rivals; and bleeding was a common treatment that often hastened the end. "Malarial poisoning" was supposed to arise from the decomposition of vegetable matter.

Sims developed a good practice and became recognized as a surgeon of more than average ability. He was the first in the South to operate successfully for strabismus and club foot. Also, he had operated successfully for abscess of the liver in 1836.

EXPERIMENTS UPON VESICOVAGINAL FISTULA

Strangely enough the specialty which he was to rejuvenate had always been distasteful to him; and invariably he would refer gynecologic cases to others. But in the course of one month, in 1845, despite his firm protests, he was forced to examine three cases of vesicovaginal fistula in referred slave women. All were put in the little infirmary which he had constructed in his yard.

About that time he made his first great discovery. A lady who had been thrown from a pony suffered acutely from retroversion. On putting her in the knee-chest position and placing a finger in the vagina, air rushed in and she was immediately relieved. And when she lay down again, the air could be heard escaping. That gave him the idea that an instrument placed in the vagina with the patient in the knee-chest position might expose the distended walls. All know the story of his purchase of a pewter spoon and the bending of the handle, thus devising the crude forerunner of the Sims' speculum.

Immediately he set about operating upon those three Negro slaves, Anarcha, Betsy and Lucy; and other Negroes were soon added to his list. For four years, at his own expense, this kept up without a cure, although various fistulae were made smaller by bridges of tissue reducing the size of the

openings. Finally, in 1849, he picked up a small piece of suspender wire and suddenly conceived the idea of using a silver wire for suture material. It was like the philosopher's stone in that it transformed his former failures into successes. His first cure with the silver wire was Lucy; and it was his thirtieth operation upon her. In rapid succession he had cured Lucy, Betsy and Anarcha. Other successful cases followed. The profession was amazed at his accomplishment.

Next came refinements in technic such as the use of slit lead shot that were bradded upon the wire to save tying or twisting of the silver sutures; the employment of a self-retaining s-shaped silver catheter and the use of mirrors to reflect daylight from a north window into the field of operation. Mind you, all of this was done before the days of anesthesia or asepsis. Only opium or whiskey were used to lessen the pain. After that marvelous surgical feat, it is needless to say that Dr. Sims had all the practice he could handle, his surgical work in Alabama being considered second only in volume to that of another South Carolinian, Dr. Josiah Knott of Mobile, who had founded the Mobile Medical College, of which he was Professor of Surgery; and it was the latter who first advanced the theory that "*animaculi*" might be the carriers of malaria.

The publication of Sims' monumental report did not occur until 1852 when it appeared in the January number of the *American Journal of the Medical Sciences*.

ILL HEALTH

Within six weeks of the successful vesicovaginal fistula cases, Dr. Sims was taken with an intractable diarrhea that, except for short periods of improvement, was to last three years almost constantly, and intermittently for another three. After having wandered to various spas and having tried different climates, he resolved to move to New York City, where experience showed he always felt his best. The move was made in 1853. But the profession was jealous of him. They were glad to see him operate until they had learned his methods; and then they ignored him except perhaps to borrow his instruments.

Broken in health, reduced to poverty, and his wife being forced to take boarders, he decided to secure a start by establishing a

charity hospital for women, where he might be allowed to demonstrate his ability. Certain wealthy laymen were persuaded to help in the drive; and finally, after two years of hard work and many bitter disappointments, the Woman's Hospital of New York opened its doors; and from that time on Sims prospered and spread his fame throughout the world. Incidentally, that hospital was the first in the world for the exclusive treatment of diseases of women.

TRIPS ABROAD

A trip abroad in 1861 showed that his fame had spread before him; and he was given an ovation wherever he travelled. He was called to operate upon vesicovaginal fistulae in Ireland, Scotland, England, France and Belgium. His patients then and on subsequent visits numbered persons in all walks of life, including the Empress Eugenie, the wife of Napoleon III, and the Empress of Austria. His operations were witnessed and applauded by such celebrities as Nelaton, Larry, Velpeau, Denonvilliers, Pean, etc.

The War Between the States was in full blast when he tried to return to New York; and to his dismay he learned that he could not do so without taking the oath of allegiance to the United States. Of course his sympathies were altogether with his own people, those in the South. Finally, by some means or other, he did get back, but it was so unpleasant for him that he soon returned to Paris with his family, and off and on lived abroad a great portion of the rest of his life.

In 1870, he served as Surgeon-in-Chief of the Anglo-American Ambulance Corps, which he was largely instrumental in establishing for service in the Franco-Prussian War.

ALABAMA'S CLAIM TO SIMS

During a triumphant visit to Montgomery in 1877, twenty-five years after he had left that city, Sims said: "You claim me as an Alabamian, and rightly too, for all that I am I owe to Montgomery and to the people of Montgomery. I am frank to acknowledge my allegiance and can do so without treason to my native State."

It was in Alabama that all his children were born; it was where he joined his first medical society; he received great stimulation from several of the Montgomery doctors; Alabama furnished him a livelihood

for twenty-eight years; and it was there that he obtained his clinical material for investigation. It is of interest also to note that for some time after reaching New York, Sims in his papers always added to his name, "late of Montgomery, Alabama." As Dr. Baldwin said, "South Carolina may have rocked the cradle, but Alabama nurtured him."

LUCY, BETSY AND ANARCHA

Too much credit cannot be given to the three Negro slaves, Lucy, Betsy and Anarcha, who willingly and trustingly submitted to multiple operations without anesthesia, and who always begged him to try just once more to cure them. It is a much deserved and fitting tribute to them that their names appear upon this monument along with that of Dr. Sims, the monument that we are unveiling here today.

APPRAISAL

Sims was not the first to cure a vesicovaginal fistula. Sporadic instances had occurred throughout the world, the most notable series being that of Mettauer of Virginia. What Sims did was to simplify the operation and make it adaptable for any good surgeon. He introduced two means for better exposure of the field of operation, the knee-chest posture, later modified into a lateral position, and a traction speculum to replace the tubular specula of the day. The third innovation was silver wire, which we now know to be antiseptic, and, lastly, the s-shaped, silver, indwelling catheter to relieve all tension upon the suture line.

History tells us that Marion Sims was a man of only medium height of which he was always ashamed, had dark brown eyes and brown hair, a head of the Gaelic type and a high forehead. Dr. William O. Baldwin said of him: "He possessed more personal magnetism than any man I ever met."

He was sensitive by nature, and kindly but impulsive. Retiring in habits, he had a definite feeling of inferiority, which, for example, caused him to decline the honor of delivering the valedictory address of his graduating class at Jefferson Medical College. Furthermore, he did not believe that he wrote well; and he actually hid the journal containing his first published paper behind a row of books so that his friends would not read it and think the less of him.

He was a star of the first magnitude in a surgical firmament badly in need of illumination. He was studious by nature, industrious, ambitious, and above all he possessed the rarest of talents essential for successful research, namely, a boundless faculty for the drudgery of detail.

He received more recognition and honors at home and abroad than any American physician of his day. The governments of France, Belgium, Italy, Spain and Portugal decorated him, all of which honors he bore modestly. His light shone to the remotest parts of the earth. Wherever he went he commanded the greatest respect, for he was the ranking gynecologist of his age and truly the "Father of Modern Gynecology."

The amount of suffering relieved by Sims' impetus to gynecology cannot be considered as applying merely to his time or ours, but should be multiplied by the number of the ill and distressed women yet to be born in the ages to come.

DR. JAMES MARION SIMS*

By

J. MILLER BONNER

Montgomery, Ala.

Five score and four years ago, a youth from a little village in South Carolina came to this community to begin the practice of his chosen profession—medicine.

He located first at Mt. Meigs, a little country village just twelve miles east of Montgomery, which was, at that time, also just a country village. Then he moved to Cross Keys, Macon County, another country village. After three years there, he sought a broader field and located in Montgomery, which was by then a growing town with future possibilities. Twelve years here and the restless spirit and the burning zeal to aid suffering humanity carried him to New York. But, even there, he had not found a limit to the field of his activities. London, Paris, Brussels and Dublin, all were to know

the genius of his healing, the magic of his surgeon's skill. Then back to New York, and back again to Paris, and back again to New York where he labored until his death in 1883.

Almost a half century of activity has been summed up in these few words. What was it that he did, during these years, more than was accomplished by other men, that brings us together today to do honor to his name and memory? His was not the ambition to build a principality of political power nor, yet, did he seek to accumulate great riches. He held before himself, steadily, a higher goal—the building of a good name by a life time of service to suffering humanity. That he succeeded is evidenced by the fact that we stand here today beside this statue of bronze, erected by admiring members of the great profession of medicine which he honored, and dedicated today as a memorial to his good name. And after all, is not the building of a good name by unselfish, untiring service to humanity, the highest goal to which any of us may strive? We, who have come to maturity of years, realize that Solomon was profoundly right when he said, "A good name is rather to be chosen than great riches." Its building is a slow process. As Holland says, "Earth's utmost heights are not reached at a single bound, but we must build the ladder by which we rise from the lowly earth to its vaulted skies, and mount to its summit round by round."

That good name, which is the proudest heritage which we can hand down to our posterity, is almost the only thing that endures. There is no permanence of things material.

"The seas shall waste
The skies in smoke decay
Rocks fall to dust
And mountains melt away."

Yes, this statue of bronze shall fall to dust, but when it shall have past into utter forgetfulness, the good name of Dr. James Marion Sims will then be in the noon time of its glory.

As the representative of Governor Frank M. Dixon, it is now my great pleasure to accept, in behalf of the state of Alabama, this memorial to his good name.

*Address delivered April 19, 1939, at the unveiling, on the Capitol grounds, Montgomery, of the James Marion Sims monument, a gift to the State by the State Medical Association.

HISTOPLASMOSIS OF DARLING*

REPORT OF CASE

By

WM. A. GUNTER, M. D.

and

CHARLES LAFFERTY, M. D.

Montgomery, Ala.

Histoplasmosis of Darling is a rare, fatal fungus infection occurring in the Western Hemisphere. The disease closely resembles kala-azar, both clinically and pathologically. However, in 1905 Darling¹ proved it a distinct disease entity. The etiology of this disease was established by DeMonbreum² in 1933, when, while working with cultures of the organisms obtained in the case of Dodd and Tompkins, he was able to accomplish much toward determining the exact classification of the parasite, as well as throwing further light on its pathogenicity. During the course of his work, he discovered that the organism could be cultured and grown in both yeast-like and mycelial forms. Experimentally he reproduced the disease in monkeys by intravenous inoculation.

Since the disease was first described, there have been eight cases reported in the medical literature. The case herein described is the first to be reported in Alabama.

CASE REPORT

The patient, a white female, fifty-four years of age, native of Alabama, was admitted to Saint Margaret's Hospital, Montgomery, Alabama, on April 14, 1939, complaining of fever and headache of three and one-half months' duration. Her present illness began in December 1938, with the same complaints and a diagnosis of malaria fever was made. The patient was put on an adequate quinine therapy regimen for one week. However, in view of the persistent elevation of temperature (99-102 F.), a course of atabrine was instituted, but to no avail. When this treatment failed, and in spite of the negative agglutination tests for typhoid, paratyphoid,

undulant and typhus fever, a tentative diagnosis of undulant fever was made, and in February 1939 she was given a course of sulphanilamide (prontylin), fifteen grains three times daily for seven days. This failed to reduce her temperature or give any relief of symptoms. Throughout the remainder of February and March she continued to run a temperature varying from 100 F. to 103 F., becoming weaker, paler, and showing a moderate loss of subcutaneous tissue. On March 25, 1939, a second course of sulphanilamide was given with the same negative results, and the patient was admitted for observation. Her physical examination at this time revealed a poorly nourished, white female fifty-four years of age. Her temperature was 100 F., pulse 88, respiration 14, and blood pressure 100/70. Her head was of normal contour, pupils equal, regular, and reacted to light and accommodation. There were no glandular enlargements. Chest was of normal contour. The lungs were clear to auscultation and percussion. The abdomen was slightly protuberant with no tenderness or rigidity. The spleen, enlarged and palpable, was three-fingers' breadth below the costal margin.

The laboratory findings: Wassermann was negative, white blood count 4,000, red blood count 4,000,000, hemoglobin 80 per cent, color index 1, differential—60 per cent neutrophils, 38 per cent lymphocytes and 2 per cent eosinophiles. Agglutination tests for typhoid, paratyphoid, undulant and typhus fever were negative, as were repeated blood cultures. Tentative diagnosis, at this time, was miliary-tuberculosis, or subacute bacterial endocarditis, but nothing was found to substantiate either diagnosis.

The patient left the hospital on April 8th, 1939, showing no improvement and her subsequent history was progressively down hill. There was a gradual appearance of dependent edema, spreading upward from the ankles into the abdominal wall. The spleen increased in size to four-fingers' breadth below the costal margin. Two days before death, there were petechial hemorrhages under the skin, and the passage of blood in the stool. Patient became comatose, and died on April 27th, 1939.

Necropsy

The body was that of a well developed, poorly nourished, white female, of about fifty-four years of age. Body heat was absent, and rigor mortis was complete. Body length 168 cm., weight 125 pounds. Head was of normal contour, pupils were round and equal in mid dilatation. There were a few petechial hemorrhages over the chest and abdomen. There was marked edema of lower extremities and abdominal wall.

On opening the peritoneal cavity, the membrane was moist and glistening, the intestines were moderately congested and there was no free fluid and no adhesions.

The pleural cavities were of normal size. Both lungs were bound down at the apices by fibrous adhesions that were separated with difficulty. The mediastinal and bronchial lymph nodes were enlarged and attached to the surrounding tissue. These nodes varied in diameter from 1 to 4 cm.,

*From the Department of Medicine and Pathology, Saint Margaret's Hospital.

1. Darling, S. T.: A Protozoan (a) General Infection Producing Pseudo-Tuberculosis in the Lungs and Focal Necrosis in the Liver, Spleen and Lymph nodes, J. A. M. A. 46: 1283 (April 28) 1906.

2. DeMonbreum, W. A.: The Cultivation and Cultural Characteristics of Darling's Histoplasma Capsulatum, Am. J. Trop. Med. 14: 93 (March) 1934.

and on the surface were firm, white, and the cut surface was solid and of uniformly white color.

The heart was small, dark and flabby. The cut surface showed the myocardium of both ventricles to be thin and soft. The endocardium and valves were smooth and showed no gross pathology.

Both lungs had a mottled gray color. The apices were firm and the remaining lung tissue soft and crepitant. The cut surface revealed areas of fibrosis in both upper lobes but no cavitation.

The liver was dark brown, finely nodular, and small. On the cut surface the normal markings were obscured by fibrous and fatty changes.

The spleen was greatly enlarged, approximately five times its normal size. It was grayish purple and beneath the capsule could be seen numerous large necrotic areas varying in diameter from 1 to 1½ cm. The cut surface revealed many areas of necrosis, and between these areas the pulp was firm reddish purple.

The gastro-intestinal tract, pancreas, and adrenal glands were not remarkable.

The kidneys were of normal size, the capsule stripped with ease leaving a smooth dark red surface. The cut surface showed the cortex to be of normal width.

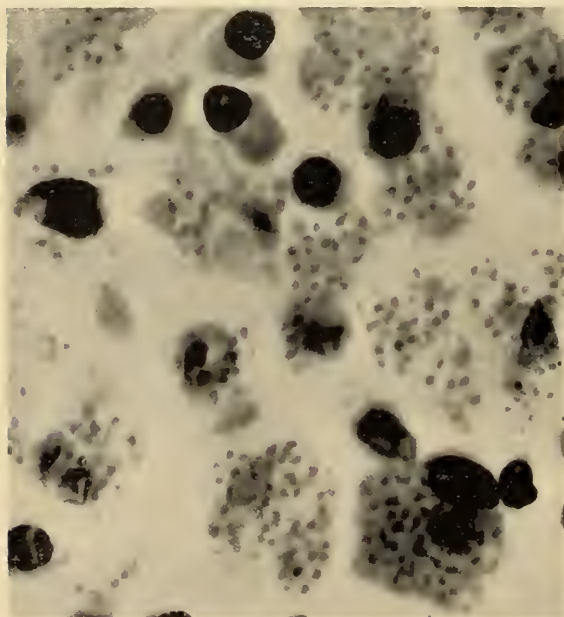


Fig. 1. Section of mediastinal lymph node showing parasitic bodies in the endothelial cells. (x 2000)

Anatomic Diagnosis

Tuberculosis of the lungs, spleen, and mediastinal glands.

Microscopic

Sections taken through the mediastinal glands, lungs, liver and spleen showed many of the endothelial cells filled with parasitic bodies, and, in addition, necrotic areas were noted in the liver



Fig. 2. Section of liver in histoplasmosis showing large areas of necrosis. (x 80)

and spleen surrounded by lymphocytes, plasma cells, and endothelial cells containing parasites.

Histologic Diagnosis

Histoplasmosis. Tissue removed at autopsy was sent to Dr. DeMonbreum who confirmed the diagnosis.

DISCUSSION

The history, clinical picture and post-mortem findings of this patient are similar to those noted by previous authors reporting cases of histoplasmosis. Clinically, the chief findings were irregular pyrexia, splenomegaly, moderate leucopenia, anemia, emaciation and chronicity. The microscopic appearance of the various organs showed an overwhelming parasitic invasion of the endothelial cells, hilus lymph nodes, lungs, liver and spleen. The spleen in this case was most unusual, showing numerous areas of necrosis surrounded by lymphocytes, and endothelial cells containing "parasitic inclusion bodies."

Histoplasmosis was not considered in the clinical diagnosis because of the rarity of the disease. However, it seems that it would be advisable to consider this disease in the differential diagnosis of cases having continued fever and splenomegaly, with repeated negative laboratory tests. The diag-

nosis may be made before death by finding the "parasitic inclusion bodies" in the monocytes of the blood cells or the bone marrow. There is no specific treatment for histoplasmosis. All cases have been fatal, and only one case has been diagnosed before death.

The only possible therapeutic suggestion for histoplasmosis which Shaffer et al.³ have found in the literature is that contained in a report by Negre and Bidre of a case of human epizootic lymphangitis. In this case one injection of 0.6 gm. of arsphenamine brought about a speedy and complete cure. Since some writers have maintained that there is similarity between *Cryptococcus farciminosus*, the etiologic organism of epizootic lymphangitis, and the parasitic agent of histoplasmosis, one of the arsenicals might theoretically be indicated in the treatment of the latter.

CONCLUSION

A case of histoplasmosis of Darling in a white female, age fifty-four, native of Alabama, is reported.

PSYCHOSIS PRECIPITATED BY SULFANILAMIDE

By

W. H. BLOCK, M. D.
Hartselle, Ala.

Due to the continued use of sulfanilamide preparations, and justly so, I feel that a recent case which I had the privilege of observing should be of interest to the profession in general, particularly since only a few cases of this type have been reported in the literature.

CASE REPORT

A. W., age 63, white male, previously mentally sound, had a sudden onset January 6, 1940 of sore throat, headache, high fever, and generalized aching. He was seen by me January 9, 1940. Family history: Two brothers and one sister died of tuberculosis. Past history was essentially negative.

3. Shaffer, F. J., et al.: Histoplasmosis of Darling. Fourth Case to Be Reported in United States, J. A. M. A. (August 5) 1939.

Physical examination: Temperature 103.4; pulse 110; blood pressure 160/84; respiration 20. Well developed, slightly obese, cooperative and acutely ill. Head: Face flushed. Nose: Nasal membranes inflamed, swollen and filled with mucopurulent discharge. Throat: Tonsils inflamed, enlarged, and flecked with pus. The nasopharynx was inflamed. Heart, lungs, abdomen, extremities and central nervous system were essentially negative.

Laboratory: Urinalysis negative.

A diagnosis of acute upper respiratory infection, streptococcal in origin, was made. Neoprontosil, grains 20 every 4 to 6 hours was ordered. However, by the time he had taken four doses the temperature was normal; and the throat, nose and nasopharynx had cleared considerably. At this time, a state of mental confusion was noticed but it was attributed to the infection. Neoprontosil was continued for three more doses, making approximately 135 grains. The patient became uncooperative, would not stay in bed, stating that he had been up the day before, and complained bitterly of the rain outside even though the day was fair. He complained of wires hanging from the ceiling and of birds in a tree outside his window which did not exist. He also thought that he was in the home of one of his daughters instead of being in his own home. Neoprontosil was discontinued and all mental symptoms cleared within twelve hours. The patient had an amnesia for events during this period. I saw the patient again January 17, 1940, and he appeared normal in all respects.

SUMMARY

1. A case of psychosis precipitated by sulfanilamide has been presented.
2. The administration of eighty grains of neoprontosil precipitated a state of mental confusion, disorientation for time and place, and hallucinations which gradually became more aggravated under continued use of the drug.
3. The rapid clearing of the mental symptoms following cessation of the drug proves without doubt that neoprontosil was the precipitating factor.

BIBLIOGRAPHY

Danziger, L.: Delayed Toxic Reaction to Sulfanilamide; Case Report, Bull. Johns Hopkins Hosp. 63: 340-344, Nov. '38.

Hogan, B. W., and McNamara, P. J.: Psychosis Precipitated by Sulfanilamide, U. S. Nav. M. Bull. 36: 60-61, Jan. '38.

Pearson, M. M., and Burnstine, M. D.: Psychoses Precipitated by Sulfanilamide; Report of 2 Cases, Internat. Clin. 3: 246-248, Sept. '39.

DISEASE AND THE NEGRO***OPERATIONS FOR PERINEAL REPAIR**

By

GROESBECK WALSH, M. D., F. A. C. P.

and

ROBERT M. POOL, M. D., F. A. C. S.

Fairfield, Ala.

In this hospital during the period from 1935 to 1937 the operation for perineal repair was performed upon 155 white women and five Negresses. In this same time period, the proportion of Negro patients in the hospital averaged forty per cent. We judge from this that there is a wide variation in the two races regarding their needs for this form of relief. It is true that other operative procedures have differed as to the frequency with which they have occurred in the two races. Examples of this are to be found in the statistics relative to the removal of tonsils and adenoids and also in the field of rectal surgery. In both these circumstances we find the Negro falls far behind what we should expect when we consider his numbers in relation to the patient body as a whole. The reasons for this disparity the authors have discussed elsewhere.¹ Nowhere are the differences in the figures relating to race so striking as in the instance which we are at present discussing. There are few if any differences in the bodies of the women of the two races, so we may assume that the technical advice given them has not varied in regard to their color. Whatever change has taken place in this regard has been due to the ever-widening experience in the members of the staff; changes which seem always to move toward the side of conservatism. The staff as a group has remained essentially the same during the period which we have chosen.

One other feature is worthy of note. None of our physicians is in a position to profit materially from any prospective surgical intentions on their part. Their incomes have been regulated without regard to that particular. This is a matter of some importance when we recall that it was not many years ago when the operation of trachelorrhaphy

was performed with the most honest of intentions in our well regulated hospitals. Such ordeals were carried out so frequently that they contributed materially to the incomes of the gynecologists of that era. Such procedures are now for the most part deemed unnecessary and ill-advised. The operation for perineal repair has weathered the changes which the flight of time has brought about. In so far as the white race is concerned it seems to be founded upon a rock. It is apparent that it satisfies some racial need of which the patients have become aware, independent of whatever changes may have taken place in the minds of their medical advisers.

A variety of reasons lead up to the operation for perineal repair. For the most part they concern themselves with the effort to restore the mechanical condition of the perineal body. They are designed to give proper support to the pelvic and abdominal viscera. The relaxation of these structures is intimately bound up with the ordeal of child bearing. Sometimes the destruction of perineal tissue has proceeded to such a degree that involvement of the rectal sphincter makes some effort at repair imperative. More often the operation is ostensibly planned to provide a firm foundation for the abdominal organs, the sagging down of which produce so many unpleasant symptoms. Just how far the surgeon's judgment in the matter is influenced by the story of suffering detailed by the patient, it is hard to say, but in this, as in all other forms of surgery, the wishes and intentions of the patient must be given their meed. Perineal repairs are undertaken with due regard for the period of the patient's life in which they are encountered. The inadvisability of such accomplishments when the woman is still in the child-bearing age is self evident. Just why so few Negresses seek or are prevailed upon to endure such procedures, it is difficult to say. Their bodies seem to be impregnable to the symptoms produced by this disorder in white women, the recitation of which must be a moving argument in many such consummations.

Some white women have obsessions in regard to a tear or a laceration, and have insisted that, but for this danger, pregnancy and labor would hold few horrors for them. A few have requested a cesarean operation so that they might be unimpaired so far as

*From the Employees' Hospital.

1. Walsh, Groesbeck, and Pool, R. M.: Disease and the Negro, *Am. J. M. Sc.* 196: 252-261, August '38.

their perineal bodies were concerned. They preferred to undergo this additional risk rather than those of a normal labor with the possibility of a resulting perineal injury. The words "tear" and "laceration" seem to hold some peculiar power of persuasion over many white women. The statement that repairs of these conditions are contemplated seems to dissipate whatever objection they may have to surgery. We judge, from what we have learned from medical literature of the past, that the word "laceration" was a potent weapon in the hands of the prospective operator. Some of our white patients have informed us that they believed that they had become less desirable sexually, after the perineum had undergone the ordeal of several labors. We believe that this conviction is held more commonly than it is expressed. It has, we think, played an important part in the drama as a whole. It has become a portion of the sexual folk-lore of white women that by such operations they may place themselves on a plane more satisfactory to the physiologic sexual activities of their marital partners.

Some of the more modern methods of the present day obstetricians have been reflected in the attitudes of our white patients. Not infrequently we have been informed that their previous accoucheurs did not permit them to undergo a laceration, as they cut them before such an eventuality became probable. They tolerate the suturing following an episiotomy, but at times do not bear so well the repair of a perineum if a laceration has occurred. Often white patients seek repair of a long standing relaxation, because they have been told that a cancer may develop if the disability is neglected. The lack of operations for perineal repair among our Negro patients is outstanding. We have been able to detect no differences in the structure or the muscular development of the two races so far as this part of the body is concerned. It is true nevertheless that few Negresses present themselves with a history of uterine prolapse accompanied by its chain of discomforting symptoms, a recitation to which we lend an attentive ear when it comes from a white patient.

There are explanations which we have heard offered as to the disparity between the two races in this respect. The frequency of fibroid tumors in the colored race often

makes the removal of such masses a sizeable job. The additional time required for a perineal repair might, even in the hands of the most experienced operators, cast an additional and unjustifiable burden upon the patient's chances for recovery. The presence of tubo-ovarian abscesses of common occurrence are sometimes complicating features of the operation. Repair attempted under these conditions might leave the perineum in worse case than if it were left alone. We do not believe that any of these explanations portray the fundamental background. When we have considered the various plausibilities presented for the dearth of this form of surgery in Negro women, we have come to the conclusion that the plot is not a simple one. Much of the story is bound up in the emotional desires and hidden intentions of the white woman. The Negress of these parts has not had time as yet to permit herself an analysis of what these procedures portend. Having so little knowledge of the subject she is free from much of the motivation which guides her white sister. The latter is willing to pay with suffering through a surgical operation to obtain ends of which the colored woman is as yet unaware.

Of one thing we have become certain. This brief statistical comparison sheds a clear light upon the many complexities in which this field of surgery is immersed. We can see that these procedures, when exposed to such a racial analysis, show evidences of departing from an easily judged flat surface and take upon themselves attributes which otherwise we might be inclined to disregard. We are impressed with the conviction that the wishes and cultural planes occupied by our patients have more to do with what happens to them in these respects than otherwise we might casually suppose. In dealing with the type of Southern Negro we encounter hereabouts, we discover that much of the ideology of medicine, a commonplace with our own people, is unknown. The Negresses of these parts are unaware of what such operations may hold for them, or indeed of the necessity or desirability of such procedures. Since they are oblivious of the fact that they may be made more desirable sexually by being converted into a form approaching the virginal, they have not been given to conditioning their minds toward such an end. In time to come they

may attain such wisdom, but so far it has been withheld from them. We should judge from this study that intentions of this sort are commoner among white women than appears to be the case.

Here we find motivation that, as Menninger² has pointed out, lies back of many of our surgical experiences; a puzzle wherein the patient rather than the physician is the guide. It is a variation of the old theme that it takes two to make a bargain, whether the latter be a material or a spiritual one. The frankness with which white women who have borne children prepare themselves for a second matrimonial experience, by undergoing an operation for perineal repair, has been a matter of observation for many years. Expressions of this idea are not infrequently given voice by this type of patient. The knowledge that a marital partner can be held to his allegiance by such maneuvers seems to be a matter of common information to them. These nuances in the sexual lives of the white woman have been withheld from the Negroesses of the deep South. We have yet to hear utterances portraying this knowledge issuing from such lips. The paucity of operations for the condition under discussion in this race would appear to add proof to these theories. We think it is peculiarly fortunate that for our purpose we have had opportunity to make racial comparisons in this field. Here are involved not only motivations and desires in the broad sense of the word, but such underlying intentions making their presence known in a terrain where the most powerful emotional urges at our command are presumed to dwell.

A comparison might be drawn in this instance between the operations for perineal repair carried out under these auspices with the surgical attempts at rejuvenation of elderly white men. From what we have learned we believe that such adventures would be but rarely sought by the male Negro. This abstention from dalliance in the more radical surgical procedures might be due to the lack of knowledge as to the benefits obtainable from such procedures. We think that it can be ascribed more properly to the profound conservatism which dictates all the Negro's contacts with the art

of medicine. We are by no means certain that, even if they could assure themselves that the results promised them would be fulfilled, they would elect such an issue.

TREATMENT OF CHRONIC DACRYOCYSTITIS

A NEW TECHNIC

By

JOHN A. KEYTON, M. D.

Dothan, Ala.

Various substitutes have been devised for the treatment of chronic dacryocystitis to replace the Toti-Mosher operation for the cure of this disease, some of which have had merit.

The following technic has been found useful in the hands of the author over a period of eight years and is reported in the hope that it may prove equally valuable to other practitioners of ophthalmology and otolaryngology.

In such cases as atresia or complete cicatrization of the nasal portion of the nasolacrimal canal, the canal is dilated with the ordinary Bowman dilator until a number three or four will pass readily into the inferior meatus.

After the instillation of further anesthesia, a silver probe (sterling) is threaded with six or eight strands of ordinary number forty sewing thread, then passed through the canal until the end of the probe presents in the inferior meatus, when it is then grasped and gently drawn downward and out the nostril of that side, leaving the thread lying in the canal.

The thread is tied, the nasal end to the ophthalmic end; and is left in the canal for three or four weeks, daily being drawn back and forth to insure the continuation of the patency of the canal.

Thread is used in multiple strands because it has been found to better conduct some mild antiseptic agent, such as 2 per cent mercurochrome, and thus insure the continuous sterilization of the canal.

The procedure is painless, if proper anesthesia is used, and the thread is worn without discomfort to the patient. If desired, a local anesthetic may be instilled daily before the manipulation of the strands of thread.

2. Menninger, K. A.: Polysurgery and Polysurgical Addictions, Psychoanalyt. Quart. 3: 173-199, April '34.

In the event that the nasal end of the canal is impossible of dilatation, the probe may be passed out through the anterior ethmoids entering the nares between the inferior and the middle turbinates just at the attachment of the inferior concha.

The further manipulation is identical with the technic just described and end results have proven to be as good as when the thread follows the normal anatomic passage.

This technic has been of such value as to entirely avert the necessity of lacrimal sac extirpation or the performance of the Toti-Mosher operation.

INFECTIONS OF THE KIDNEY*

By

R. R. CALLAWAY, M. D.
Birmingham, Ala.

I wish to discuss kidney infections, because of their major importance both to the general practitioner and the urologist. The field is extensive; therefore I shall limit my discussion to pyelitis, both general and that of pregnancy, pyelonephritis, pyonephrosis, and acute suppurative nephritis.

There are three main routes by which the kidney may become infected; namely, the blood stream, the lymphatics and, by ascension, through the ureter.

The blood stream is probably responsible for bringing to the kidney the majority of organisms that produce an infection. These patients do not have a septicemia, but a transient bacteremia. A blood culture on a patient who develops a chill and marked elevation of temperature following instrumentation, removal of packs, drains, etc., provided the culture is taken during the chill, will usually show a positive culture that will be negative in a few hours. Before the patient can develop a gonorrheal arthritis he must first have living gonococci floating in the blood stream.

The body attempts to remove these organisms by way of the urinary system. If conditions are ideal, they set up housekeeping in the kidney and we then have pyelonephritis.

By ascending infections we mean those that travel to the kidneys from infections of the lower urinary tract, such as cystitis, urethritis, vulvitis, and pelvic inflammatory disease. They may ascend through the ureters to the renal pelvis or by the lymphatics surrounding the ureters. While the route of direct ascent has been definitely established by repeated experiments and by clinical observation, both in the presence and absence of obstruction, the route by the lymphatics has recently been questioned for the reason that the anatomic findings are unsatisfactory. There are no lymphatics that follow the ureter to the kidney. The recent experiments of MacKenzie show that various dyes that are injected into the trigone and bladder wall will invariably be recovered in the regional lymph nodes and in the lymph channels, but none of it can be found in the lymphatics around the renal pelvis. It is unlikely that bacteria can jump from the regional lymphatics to the kidney, if dyes can not do so. That leaves us with only a single real avenue of ascending infection, the one that urologists universally recognize—by way of the lumen of the ureter.

The causative organism in the majority of cases of pyelitis is the colon bacillus, followed at a great distance by *Staphylococcus albus* and *aureus*, *Bacillus proteus*, *Bacillus enteritidis*, and *Bacterium faecalis alcaligenes*. There are others, but for practical purposes they are rare and unimportant. It is well known that the colon bacillus is a constant inhabitant of the alimentary tract and is frequently isolated from urine, but is seldom the cause of pyelitis unless other associated factors are present. These are lowering of body resistance, stasis of urine, and overwhelming doses of bacilli. The ascent of bacteria to the bladder in the female is favored by a shorter and less complicated system of channels, and less efficient bladder sphincters. Add to this the nearness of the urethra to the vulva that is constantly bathed in impure secretions and is a real incubator of bacteria, and it is readily seen that the female is a victim of kidney infections more often than the male. Similarly, small female children will be affected because of the incompletely developed urinary system. This makes pyelitis in small girls a problem.

*Read before the Northwestern Division of the Association at its meeting in Tusculum, September 14, 1939.

The pathology of pyelitis is difficult to see clearly. The transient and readily cured case does not die, hence no autopsy records are available. If a case dies of pyelitis, the damage to the kidney is so marked that the disease has passed from the stage of pyelitis, or pyelonephritis, and has become a suppurative nephritis. It is maintained that there is no real and pure pyelitis, or inflammation of the lining of the renal pelvis, but that in all cases of pyelitis there is some renal involvement, and that in the beginning the disease is pyelonephritis. However, for simplicity's sake it can be said that the inflammation may only involve the renal pelvis, and that the case is one of pyelitis. If some of the subjacent tissue is also involved, then it is a case of pyelonephritis, grading in severity depending on the amount of renal damage. If added to the renal damage there is also obstruction to the outflow of the purulent urine, which accumulates in the renal pelvis, the condition is spoken of as pyonephrosis. As long as there is drainage, there is no real pyonephrosis. However, in very severe cases with marked involvement, with suppuration deep in the renal tissue, the condition of suppurative nephritis appears. This chain of events reveals that the usual case of pyelitis is simple only because it has not progressed to one of the severer forms. All cases of kidney infections should be vigorously treated to prevent deeper and more intractable involvement. The lesson derived from the pathologic course of the disease complex is that the earlier the disease is treated the easier it is cured and the fewer the complications that develop. Interference with the downward flow of urine, or urinary stasis, is of greatest aid to the bacteria in their attack on the kidney. Stale urine, whether it be in the renal pelvis or in the specimen bottle, rapidly becomes a favorite culture medium for bacteria, and in it they multiply rapidly.

Dilatation of the ureters and kidney pelves is a normal finding in the pregnant woman, and almost gives rise to a special disease entity. In the study of pyelitis of pregnancy, it has hitherto been believed that the pressure of the large uterus and the fetal head caused compression of the ureter and subsequent renal stasis. This concept has never been satisfactory, and recently a correct explanation has been offered. Experimentally it has been proved that the hor-

mone of the corpus luteum not alone acts on the uterine muscles to cause them to increase in length and size, but the same hormone acts on all the smooth muscles of the body. In pregnancy the bowel is atonic and causes constipation. The muscle tissue all over the body loses its tone and becomes relaxed. But the greatest extra-uterine effect of the hormone is on the smooth muscles of the ureters and the renal pelvis.

Numerous series of intravenous pyelograms in normal pregnancies, free of urinary tract infections and with negative histories of previous infections, have all revealed almost a hundred per cent dilatation of the upper urinary tract. Before even the uterus is large enough to cause compression of the ureters, the enlargement of the ureters and the renal pelvis is present. This physiologic relaxation of the urinary system musculature explains the frequency of the pyelitis of pregnancy, because with the relaxed and enlarged ureters and renal pelvis urinary stasis appears. It is not always, however, that pyelitis brings our attention to this finding. Many women go through the entire period of gestation without kidney trouble. When the child is born and the uterus becomes smaller in size, namely, when involution has set in, the ureters also become smaller and decrease in size with the uterus.

Another frequent cause of urinary stasis is ptosis of the kidney. Ptosis causes kinking of the ureter, with retention of urine in the renal pelvis, or hydronephrosis. If infection takes place with this stasis, pyelitis is the result. It has been shown that about 90% of all hydronephrosis is caused by ptosis of the kidney. There are other conditions that predispose to urinary stasis and favor the appearance of ascending urinary infections. A stone in the renal pelvis will cause intermittent blockage and will act as an irritant and damage the epithelium of the renal pelvis. Ureteral stone causes complete or partial stricture of the ureter and the pressure of masses outside the ureter diminishes its lumen. In this manner a fibroid or inflammatory pelvic mass may cause stasis. The folding of the ureter over an aberrant renal vessel acts the same way. In the lower urinary tract there are bladder stones and tumors, median prostatic bars and prostatic hypertrophies, contractures of the bladder neck and stricture of the urethra that cause obstruction to the outflow of

urine. It is remarkable the extent of renal damage that can follow a stricture of the urethra. In fact, the chill of urethral instrumentation, such as may follow the passage of a sound, is not a "nervous urethral chill" as has been believed, but is a transient bacteremia that may be accompanied by an acute pyelonephritis. The mode of infection there is probably the squeezing of bacteria into the peri-urethral blood spaces by the instrument and the passage of the bacteria to the kidneys. Recently at Hillman Hospital two deaths occurred from an acute suppurative pyelonephritis, following instrumentation by physicians not on the staff of the hospital.

By using the hydrogen ion concentration of solutions we have a simple method of estimating the acidity or alkalinity of a solution. This is called the pH of the solution. When neutral the pH is 7. Everything above this is alkaline and below acid. As examples, the blood is alkaline to a pH of 7.38, and the gastric juice is acid to a pH of 1.8. Using this scale it has been found that bacteria thrive best if the reaction of urine is between 5.5 and 9.3, which are the limits of normal acidity and alkalinity of the urine. Certain bacteria do well in acid urine and other in alkaline. Hence a determination of the pH of urine and the type of bacteria present is very important in the treatment of pyelitis.

We are all well acquainted with the symptom-complex of pyelitis and it needs no repetition. A word of caution regarding pyuria, however, is in order. Pus in the urine can come from many places besides the kidney. The urinary specimen from a woman must be a catheterized one since a voided specimen is so contaminated with vaginal and vulvar secretions that it is useless for diagnosis. Even in the male the second half of the specimen must be used, as the anterior urethra harbors many bacteria. The bladder is the most frequent source of pyuria. A pelvic inflammatory disease will cause the presence of pus in the urine by irritation of the mucosa at the base of the bladder. An acute appendix with the inflamed organ lying in the pelvis on the roof of the bladder will cause enough reaction in the bladder mucosa to show its presence by pus cells in the urine. Pus, therefore, is not of itself conclusive evidence of pyelitis. It must be clumped pus and ac-

companied by bacteria. The only positive way to determine the source of pus is by cystoscopy and ureteral catheterism. In this way uncontaminated urine is collected directly from the renal pelvis. By catheterization of each ureter, the extent of involvement of the kidneys can be determined, and the well kidney readily ruled out. Remember, a flat x-ray of the abdomen and the finding of a renal stone will often diagnose an unexplainable and intractable case of pyuria.

THE TREATMENT OF PYELITIS

Recently there appeared on the medical horizon two very beneficent groups of drugs that have simplified the treatment of pyelitis, but, despite these new drugs, there are many other things to be done in the treatment of the disease. The source of infection must be determined and the type of offending organism discovered. This can be done by staining a centrifuged specimen and noting the type of organism present. Culturing of the urine in broth and agar plate will definitely determine the organismic differences. The second step is a determination of the pH of the urine. This can be done by the simple means of litmus paper. Then all mechanical obstruction must be relieved. The urethral stricture must be dilated or cut. The obstructing prostate must be resected or an indwelling catheter temporarily inserted to establish drainage. Bladder stone or tumor must be removed. The ureteral stone must be made to pass, or, failing that, a ureteral catheter must be passed beyond the stone to the renal pelvis not only to ease the pain of the distended kidney, but to insure drainage and to prevent localization of infection. Ptosis of the kidney can be corrected by a well-fitting corset and fattening of the individual or by the operation of nephropexy. In a series of thirty nephropexy operations at Hillman Hospital in the past three years chronic and recurrent pyelitis has been definitely cured in all but two cases.

Having removed the obstruction, except in the pyelitis of pregnancy, actual therapy can be instituted. In the pregnant woman, postural drainage by the knee-chest position and a pillow below the small of the back is helpful. If the infection is very severe, adequate drainage can be instituted by indwelling catheters in the ureters. In re-

peatedly large numbers of cases we have kept catheters in pregnant women for as long a time as two to three months without untoward effects. We would insert the catheters, the temperature would drop almost overnight and the woman would feel better. In five to seven days we removed the catheters, and the fever would begin to rise to reach the previous heights in three to five days. Then the process would be repeated. In this way we could ease along with a woman about six months' pregnant until term and save both her and the infant. In several years we have had to do only one therapeutic abortion. The result will really repay the effort spent in the preservation of adequate urinary drainage.

In the older method of therapy, if the urine was found to be alkaline, acidification was instituted. This could be done by the administration of decreased amounts of fluids, a ketogenic diet, and the use of drugs, as ammonium chloride and acetate and nitrate, sodium acid phosphate and hydrochloric acid in dilute solutions. If the urine is found to be acid, as is the case with the majority of infections, the alkalization of the urine is undertaken. This can be done by the administration of liberal amounts of fluid, so as to exceed 3500 cc. daily, and by medication with potassium citrate and acetate, sodium bicarbonate, calcium and magnesium carbonate and nitrate, and fruit juices. Remember, to be successful in treating the infection merely by changing the reaction of the urine, the pH must be decreased below 5.5 or raised above 9.3. It will be found that the lowering of the reaction to below 5.5 will be impossible in many cases.

Mention must be made of the host of so-called urinary antiseptics. The dyes had their day and were proved to be useless. Methylene blue is a fine antiseptic in vitro but not in vivo. Pyridium and urotropin are also good antiseptics if in sufficient concentration, as is secured in the bladder, but sufficient concentration is not secured in the renal pelvis to be of benefit, and if there is it means that obstruction is still present. The action of the urotropin is through the liberation of formaldehyde in the urine. It is in itself efficient but transient. We all admit that much is still to be desired in urinary antiseptics.

Following the benefits derived from a ketogenic diet and the resultant excretion of beta-oxybutyric acid, search was made for a drug that would secrete large amounts of this particular acid, and it was found in mandelic acid. This drug is relatively non-toxic in all doses and secretes large amounts of the desired acid into the renal pelvis. The only necessary condition to its use is that it must be present with a pH of 5.5 or below. In a urine with a pH of 5.2 it acts as a very definite antiseptic and bactericide. It is not as beneficial on *Bacillus proteus* as it is on *Bacillus coli* and *Bacterium faecalis*. The urine must be brought to an acidity of 5.5 by the above acidifying drugs. Solution No. 65 of Parke, Davis and Co. will turn red if the urine is below 5.5 and so can be used as an indicator. Occasionally it will produce vomiting. The dosage of mandelic acid must be around 13 grams of the drug in either the elixir or the syrup solution. The urine reaction must be tested daily, or the patient must be instructed in the use of the indicator, and the dosage of the acidifying drugs must be controlled according to need. Long clinical usage shows that mandelic acid is so far the best urinary antiseptic where a pH of 5.2 can be obtained, but its unique position was soon usurped by an even more spectacular drug, sulfanilamide. This new drug has long been used in Europe in moderate doses as a urinary antiseptic, and has skyrocketed to fame in this country following its use in streptococcic infections. Later it was found that it cured gonorrhea in a certain percentage of cases, and that it acts specifically on the urinary tract, being excreted almost 100% in the urine. Clinical evidence again justifies its use, but large doses are often followed by untoward reactions of which numerous reports have appeared. Recently the elixir, using dichloroethylene, has been found to be poisonous, but the drug's toxic principle was found to be not the sulfanilamide but the menstruum in which it was prepared. Despite the unfortunate interlude in the history of this drug, we have used it with great success in urinary infections, it being especially effective in *B. proteus* infection which is resistant to mandelic acid.

Neoprontosil is slower in its action but less toxic than sulfanilamide. It is of little or no value in *Streptococcus faecalis* and certain staphylococcic infections. There is

not a great deal of difference in the toxicity of the two drugs, and the results with sulfanilamide in acute urinary infections have been superior to those obtained with neoprontosil. I prefer sulfanilamide in most acute urinary infections in children. The administration of sulfanilamide and neoprontosil offers no difficulties and they are tolerated by a majority of patients. They can be employed in acute urinary infections where alkalization is desired; and mandelic acid in the subacute and chronic types of infection where acidification of the urine is possible. The dose of sulfanilamide and neoprontosil varies with size and age of patient and degree of infection. On adults it ranges from twenty to sixty grains per day, the urine being rendered alkaline by the administration of sodium bicarbonate.

In retrospect, therefore, we find here an intractable disease that attacks women in preponderance, but which, in the light of modern therapy, can be cured by removal of the obstructive factor in its incidence, by the proper reaction control of the urine, and the judicious administration of mandelic acid, sulfanilamide and neoprontosil. But in the use of these latter drugs let us be guided by the old saying of Francis Bacon: "Be not the first to use a new device, nor last to relinquish the old."

Malignant Disease of the Stomach—Since there are no early signs and symptoms of cancer of the stomach whereby the diagnosis may be made clinically, it becomes important that careful fluoroscopic and radiologic examination should be made by a competent radiologist early in the history of any gastric disturbance that occurs in individuals approaching the mid-period of life who formerly have had no gastric disorder, or in persons who have a long history of gastric distress for which medical management no longer gives relief. It may be necessary to have radiologic investigation checked and rechecked over a period of a few weeks to determine the nature of the lesion. Insistence, therefore, must be placed upon the early radiologic investigation of suspected gastric disease as frequently as it is deemed advisable. Through the early careful study of these cases by this means, malignancy can be diagnosed usually at a time when radical surgery can give a greater assurance of prolonging life or permanent cure. This may be accompanied by competent gastroscopic confirmation.

Roentgen ray is of inestimable value in the diagnosis and location of malignancy, but may be misleading from the standpoint of determining the extent of metastasis or the nature of apparent fixation. Therefore, exploration should

be made on all individuals in a physical condition suitable for this procedure, and without metastatic contraindications, regardless of age.—*Hunt, South. M. J., March '40.*

The Prostate—Interest and knowledge of prostatic examinations should be possessed by general practitioners who are usually the first consulted. A simple rectal palpation of the prostate and vesicles may detect diseases which can be quickly cured: prostatitis, prostatic calculi, benign hypertrophy, carcinoma often sufficiently early for radical cure, tuberculosis, sarcoma, cysts, and other rarer conditions. Carcinoma occurs in more than 14 per cent of males over 45 years of age and may often be recognized by simple rectal examination. By radical operation a large percentage of these early cases have been cured. By simple perineal exposure a positive diagnosis can be made and in very early cases hemiprostectomy is sufficient to obtain a cure. If the disease proves benign, simple enucleation of the hypertrophied lobes and neat surgical closure of the prostatic wound is the quickest, most satisfactory, and in expert hands the safest operation for the larger prostatic hypertrophies. For small obstructions at the vesical orifice, the punch operation or some of its modifications is quite satisfactory. Only by complete mastery of both prostatectomy and transurethral resection can the patient be afforded scientific operative treatment in diseases of the prostate.—*Young, Texas State J. Med., March '40.*

Appendicitis—Early diagnosis is imperative if patients with acute appendicitis at the extremes of life are to be benefited by surgery. On the other hand, the obstacles encountered in arriving at a diagnosis are often almost insurmountable. In infants, for instance, one must rely entirely upon the history given by the mother, and it often proves misleading. It is a difficult task to determine whether the rigidity present is caused by pathologic changes within the abdomen, by some common ailment of childhood with abdominal symptoms, or merely by the baby's crying.

Too often physicians are satisfied with the recognition of one variety of pathology and neglect to carry the examination to completion. Acute appendicitis can and does occur in the presence of other diseases. Children very frequently show some evidence of throat infection, and the occurrence of acute appendicitis during and shortly after epidemics of upper respiratory infections has led to repeated discussion of its possible epidemiologic character.

After the second year, when appendicitis is more frequent, the patient develops the power of speech and becomes more cooperative and less fearful. The disease gradually assumes characteristics which are readily recognized, and when the child is able to say, "It hurts right here," we may disregard much of the mother's story and be on our way to an accurate diagnosis.—*Miango-larra, New Orleans M. & S. Journal, March '40.*

THE JOURNAL
of the

Medical Association of the State of Alabama

Editor-in-Chief

FRED W. WILKERSON Montgomery

Associate Editors

M. Y. DABNEY Birmingham
W. D. PARTLOW Tuscaloosa
J. N. BAKER Montgomery
DOUGLAS L. CANNON Montgomery

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

Office of Publication

519 Dexter Avenue Montgomery, Ala.

Subscription Price \$3.00 Per Year

April 1940

FOCAL INFECTION

“A review of the case against routine extraction of teeth and tonsillectomy for the purpose of preventing or curing systemic disease shows that the experience of twenty-five years has not justified the practice in the minds of many who have given the matter careful thought. The reasons advanced in favor of the procedure lack controlled clinical and experimental support. By comparing the occasional benefit obtained with the dangers incident to operation, one is led to recommend the procedure only in exceptional cases when evidence of actual local disease is present and its relation to remote or systemic disease probable.

“If abscess or chronic infection around a tooth is present with reasonable certainty or if the tonsils are actually infected and give rise to repeated attacks of illness, there is no question that surgical measures are necessary in treatment of the local condition. But, in the light of present knowledge, the removal of such local infections in the hope of influencing remote or general symptoms and disease must still be regarded as an experimental procedure not devoid of hazard.

“It may be said, therefore, that: (a) the theory of focal infection, in the sense of the term here used, has not been proved, (b) the infectious agents involved are unknown, (c) large groups of persons whose tonsils

are present are no worse than those whose tonsils are out, (d) patients whose teeth or tonsils are removed often continue to suffer from the original disease for which they are removed, (e) beneficial effects can seldom be ascribed to surgical procedures alone, (f) beneficial effects which occasionally occur after surgical measures are often outweighed by harmful effects or no effect at all, and (g) many suggestive foci of infection heal after recovery from systemic disease, or when the general health is improved with hygienic and dietary measures.”

The above are the conclusions reached by Reimann and Havens¹ after a thoroughgoing and scholarly inquiry into this subject. And in warning against the excessive and indiscriminate removal of teeth and tonsils the authors are upon firm ground. The surgical accessibility of the teeth and tonsils has doubtless been partly responsible for their removal in such great numbers. And there has been something about the idea of focal infection that has appealed particularly to American physicians. Indeed the authors quoted Haman as stating “that never before, at least in modern times, has a theory of disease so captured the imagination of the profession.” For more than two decades countless excesses have been committed in the name of focal infection, but happily the tide has begun to turn. For some years now many practitioners have been growing increasingly doubtful as to the soundness of this concept and in the near future it will doubtless be relegated to its proper place in therapy.

The Philadelphia investigators have done well and their exhaustive review of the literature leaves no doubt that the profession is well on the way toward freeing itself from a false idea or obsession under which it so long labored.

It may be repeated that the routine extraction of teeth and tonsillectomy for the purpose of preventing or curing systemic disease lack controlled clinical and experimental support. “By comparing the occasional benefit obtained with the dangers incident to operation, one is led to recommend the procedure only in exceptional cases.”

1. Reimann, Hobart A., and Havens, W. Paul: Focal Infection and Systemic Disease: A Critical Appraisal. The Case Against Indiscriminate Removal of Teeth and Tonsils, J. A. M. A. 114: 1 (Jan. 6) '40.

Committee Contributions

Maternal and Infant Welfare

The Committee has felt for some time the need of a State Obstetrical Society. A dinner meeting is being planned for Tuesday, April 16, 1940 at 6 P. M. in Birmingham to consider such an organization for Alabama. Those physicians who are devoting the major part of their practice to obstetrics and those who are especially interested in maternal welfare are invited to attend this meeting. Please notify Dr. A. E. Thomas, Chairman, 17 Adams Avenue, Montgomery, if you wish to be present at the dinner. Announcement of the location will be made before the State Medical Association meeting.

Postgraduate Study

The extension course in Internal Medicine, begun a year ago, will be resumed Monday, April 22, 1940.

This opportunity for review is made possible by the cooperation of The Medical Association of the State of Alabama and the State Department of Health with the Commonwealth Fund of New York. The Department of Graduate Medical Studies of The Tulane University of Louisiana is carrying out the administrative phases of the program.

Dr. J. L. Wilson and Dr. W. A. Sodeman, Associate Professor of Medicine and Instructor in Medicine, respectively, in the School of Medicine of Tulane University, will conduct the work, which will consist of lectures, demonstrations, clinics and consultations. Talks to lay groups will be given wherever this is desired.

Dr. Wilson's subjects will be pulmonary diseases, acute infections and diabetes.

Dr. Sodeman will talk on heart disease, the anemias and nutritional diseases.

It has been decided to begin this year's work at Dothan on Monday, April 22nd; at Eufaula on Tuesday, April 23rd; at Troy on Wednesday, April 24th; at Greenville on Thursday, April 25th; and at Montgomery on Friday, April 26th.

Program will be sent to each physician, and at the conclusion of the course a manual covering the lectures will be mailed to each physician who formally registers.

While the attendance for the first course given last year was excellent, it is hoped that this will be surpassed in the future.

Prevention of Cancer

The Women's Field Army

It is fitting that cancer should be fought by an Army, not chiefly of men but of women, an Army not of destruction but of education, and its war should be a war to save life. Four years ago a small group of physicians, research workers, and club women launched the Women's Field Army of the American Society for the Control of Cancer.

ENLIST

enlist

in the Women's Field Army of the American Society for the Control of Cancer, and help in the intensive war against this disease.

educate

yourself and others to recognize early symptoms that may indicate cancer.

save

some of the 150,000 who may die this year unless promptly treated. Early cancer can be cured.

**join your
local unit
now!**

or send your
enlistment fee
of \$1.00 to

**AMERICAN SOCIETY
for the
CONTROL of CANCER**
350 Madison Ave., N. Y.



Its goal was to reduce cancer mortality and to arouse the interest of men and women everywhere in this disease and facilities available for its treatment.

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF LABORATORIES

SPECIMENS EXAMINED

Samuel R. Damon, Ph. D., Director

FEBRUARY 1940

Examination for diphtheria bacilli and Vincent's	667
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	376
Typhoid cultures (blood, feces and urine)	478
Examinations for malaria	762
Examinations for intestinal parasites	3,729
Serologic tests for syphilis (blood and spinal fluid)	19,090
Darkfield examinations	46
Examinations for gonococci	1,776
Examinations for tubercle bacilli	1,464
Examinations for Negri bodies (microscopic)	53
Water examinations (bacteriologic)	667
Milk examinations	2,119
Pneumococcus typing	92
Miscellaneous	1,297
Total specimens	32,616

THE EVALUATION OF SERODIAGNOSTIC TESTS FOR SYPHILIS¹

Report of Results of Blood Specimens

An outline of the plan for the study of the various serologic tests existing in this country has already been published.² The purpose of the study was to determine the reliability of the different serodiagnostic methods in use in the United States. The investigation followed, as far as was possible, the conditions of ordinary practice. Samples of blood and spinal fluid were collected from donors in various categories and distributed from central points to the laboratories of the participating serologists. In all there were 1,017 blood specimens and 220 spinal fluid specimens distributed. An important point in the evaluation plan was the assignment of a code letter as a substitute for the name of each serologist so the identi-

ty of the serologists performing the tests was unknown to the committee until after the evaluation was completed. Four complement fixation and nine flocculation tests were entered for evaluation.

The donors of blood and spinal fluid specimens came from the following 15 clinical groups:

Blood Specimens:

43 untreated patients with primary syphilis.

65 untreated patients with early secondary syphilis in the eruptive stage.

307 patients with late syphilis, with varying amounts and kinds of treatment.

152 normal presumably nonsyphilitic individuals.

25 normal presumably nonsyphilitic women, both during menstruation and in the intermenstrual interval.

46 presumably nonsyphilitic patients with acute febrile diseases (temperature above 38°C., or 100°F.) or physically induced artificial fever above 40.5°C. (105°F.).

51 presumably nonsyphilitic patients with jaundice due to various causes.

50 presumably nonsyphilitic patients with leprosy.

36 presumably nonsyphilitic patients with malaria.

62 presumably nonsyphilitic patients with malignant neoplastic disease.

53 presumably nonsyphilitic patients with tuberculosis.

54 presumably normal pregnant women.

10 syphilitic or nonsyphilitic patients, from each of whom a larger volume of blood was collected and divided into forty-two samples. Three of these were submitted simultaneously to each serologist, each sample under a different key number.

Spinal Fluid Specimens:

110 patients with syphilis of the central nervous system.

110 patients with nonsyphilitic psychoses and other mental abnormalities.

EVALUATION OF SENSITIVITY

The three groups of syphilitic donors of blood specimens allowed an evaluation of the sensitivity of the thirteen serologic pro-

1. Cumming, H. S., et al.: The Evaluation of Serodiagnostic Tests for Syphilis in the United States: Report of Results, J. A. M. A. 1935, 104, 2083.

2. Damon, S. R.: The Evaluation of Serodiagnostic Tests for Syphilis, J. M. A. Alabama 9: 324, March '40.

cedures; the early primary and late syphilis groups were particularly useful for this purpose as almost all the tests were positive in the group of donors in the untreated secondary stage.

The percentage of positive reports was obtained by dividing the numbers of positive reports by the total number of specimens examined. Evaluation of doubtful reports was found impractical as agreement could not be reached on the amount of credit to be assigned or the deduction to be made on such reports.

When more than half of the serologic reports on a specimen of blood from a patient suspected of having syphilis were negative the patient was reexamined clinically except in those cases of untreated primary syphilis because treatment in these cases had been begun immediately after the blood specimen had been taken. In these instances the original diagnosis based on the darkfield examination was considered as final.

EVALUATION OF SPECIFICITY

Specificity of the various serologic tests was estimated from the group of blood specimens from normal nonsyphilitic individuals. All these donors came from a selected group in which the prevalence of syphilis was believed to be lower than the average for the general population, i.e., medical students and members of the staff of a medical school and hospital.

Donors in the normal nonsyphilitic group on whom more than one positive or two doubtful results were reported were serologically reexamined by the participating serologists and were given a clinical re-examination by one or more syphilologists.

CONCLUSIONS

The study indicated the relatively equal value to the clinician of either efficient complement fixation or efficient flocculation tests in the examination of blood specimens. Further, that if two tests are to be performed it is immaterial whether two complement fixation, two flocculation tests, or one complement fixation and one flocculation test be selected. Evidence was also forthcoming that a properly performed, highly sensitive flocculation test might be used as a "screen test" for the purpose of excluding the likelihood of syphilis but if such a test was posi-

tive it should be repeated and compared with one or more highly specific tests.

The results of the study also indicated that, in spite of the difference in symbols customarily used in reporting the results of different tests, it is satisfactory to report results as simply "positive," "doubtful," or "negative." Such a method of reporting qualitative tests was recommended to all serologists and it was thought that its adoption should be of great help to the clinician.
(To be continued)

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

THE WORK OF THE TUBERCULOSIS SANATORIA IN ALABAMA

Summation of the reports of the various tuberculosis sanatoria for the year 1939 reveals the excellent work that is being done by these institutions. There are, all told, eight such hospitals in the State with a total bed capacity of approximately 440. This is a much better picture than was the case a few years ago when only Birmingham, Gadsden, Montgomery and Mobile made any provision for their tuberculosis patients. Now institutions are located in addition at Flint (Morgan County), Scottsboro (DeKalb, Marshall and Jackson Counties), Anniston (Calhoun County) and LaFayette (Randolph and Chambers Counties). Enlargements and reorganizations have been made in the previously existing sanatoria and a new Negro building will be opened soon at the Jefferson County Sanatorium.

These institutions during 1939 admitted 879 cases and discharged 750 patients. Thus, including those in the institutions at the beginning of the year, approximately three patients were treated for each bed. This rapid turnover of patients was accomplished only by using surgical procedures in a large percentage of cases and by allowing patients with pneumothorax to return to their homes except for periodic visits to their physician or to the sanatorium for refills.

The trend of tuberculosis deaths has been downward for a long time so that it is difficult to credit the sanatoria with all the recent improvement. The rate of decline has been most marked in recent years though

and the 1939 provisional death total of 1555 is a decrease of 65 from the 1938 figures which were the previous low on record. Undoubtedly the sanatoria have been responsible for a considerable part of this decline.

One of the stimulating factors in the enlargement of sanatoria facilities has been the state subsidy. Under the provisions of the subsidy act a contribution on the part of the State was to be made towards the daily maintenance of each patient, such contribution not to exceed fifty per cent of the cost and not to exceed seventy-five cents per day. An annual appropriation of \$75,000 was made by the Legislature to meet this obligation. Since October 1939, this amount has only been sufficient to pay sixty cents per patient day and with more beds coming into use this per diem will decrease still further unless the appropriation is raised.

SYPHILIS AND THE OTHER VENEREAL DISEASES

Gonorrhea, granuloma inguinale, lymphogranuloma venereum and chancroid often occur with syphilis. As a result the syphilitic infection is frequently masked by these other venereal diseases. Gonorrhea is probably the most frequent partner of syphilis and in 16 per cent of the syphilitic infected the only history of infection is that of gonorrhea. This masking of syphilis by gonorrhea is due to the intra-urethral chancre, symptomless infection and sometimes to the chancre being so insignificant that it is either overlooked or considered due to irritation from the gonorrheal discharge. Lymphogranuloma venereum, granuloma inguinale and chancroid mask syphilis because the lesion of these diseases often occurs earlier than does that of syphilis; and when the syphilis lesion occurs, it is superimposed on the former one with little, if any, change in character or size. Symptomless infection with syphilis often plays an important role in dual infection with these other venereal diseases.

Syphilis should always be considered when any genital lesion is seen and should never be excluded from the diagnosis until at least three months have elapsed. All genital lesions should have at least two and preferably three darkfield examinations made on consecutive days and each time

blood should be drawn for a serologic test. If all these laboratory tests are negative, then serologic tests should be made on the blood at weekly intervals, if possible, or once a month, at least, for the next three months. Patients with gonorrhea should never be discharged until the possibility of syphilis infection has been ruled out. This means that all patients with gonorrhea should have a serologic test made on their blood about three months after the onset of their infection.

BUREAU OF VITAL STATISTICS

Leonard V. Phelps, S. B. in P. H., Director

FARM HOME ACCIDENTS








During the six-year period (1933-1938) there were 1,594 deaths which occurred from accidents in farm homes. Of that number, 527 (33.4 per cent) deaths were caused by burns; 419 (26.5 per cent), falls; 148 (9.4 per cent), firearms; 138 (8.7 per cent), suffocation; 122 (7.7 per cent), poisoning; 55 (3.5 per cent), lightning; 35 (2.2 per cent), drowning. The distribution of deaths is shown pictorially in the accompanying chart entitled "Agency of Injury."

It is also of interest to consider the distribution of the deaths according to what the person was doing at the time the accident occurred. Of the total number, 229 (19.4 per cent) resulted from accidents while playing; 185 (15.7 per cent), walking; 159 (13.5 per cent), sleeping; 134 (11.3 per cent), standing; 120 (10.2 per cent), eating and drinking; 76 (6.4 per cent), sitting and 51 (4.3 per cent), handling firearms. The chart entitled "Activity" shows the distribution of deaths pictorially.








The above summarization refers only to deaths resulting from accidents occurring in the home and does not include deaths of individuals gainfully employed in farming pursuits. They will be shown in the May issue of the Journal.

Burns or falls caused six out of every ten accidental deaths from accidents occurring in farm homes. Firearms were responsible for almost every tenth death. Lightning was the cause of 57 per cent more deaths than drowning. Over one-third of the decedents experienced their accident while playing or walking.

FARM HOME ACCIDENTS—AGENCY OF INJURY

	Deaths	Per Cent
 Burns-----	527	33.4
 Falls-----	419	26.5
 Firearms-----	148	9.4
 Suffocation-----	138	8.7
 Poisoning-----	122	7.7
 Lightning-----	55	3.5
 Drowning-----	35	2.2

FARM HOME ACCIDENTS—ACTIVITY

	Deaths	Per Cent
 Playing-----	229	19.4
 Walking-----	185	15.7
 Sleeping-----	159	13.5
 Standing-----	134	11.3
 Eating and Drinking---	120	10.2
 Sitting-----	76	6.4
 Handling Firearms-----	51	4.3

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

THE IDEAL MATERNAL HYGIENE PROGRAM

Ideally, every expectant mother should have the heritage of being well born, with adequate care through infancy, childhood and adolescence, thus insuring her good health when she reaches adulthood. Under ideal conditions the adult maternal hygiene program starts with the premarital examination, followed by a preconceptional examination. There may be times when the first would include the second phase. The third step is the prenatal or antepartum medical supervision; the fourth, adequate delivery care with immediate postpartum care. The six weeks postpartum examination marks the fifth step which would include in it baby-spacing information. Before another pregnancy would be started, the woman should have her preconceptional examination to see if her general physical condition is such that she will be able to have the healthiest baby possible. This six-point program is ideal and many may wonder if we can ever accomplish its establishment for the majority of women. Forty years ago few if any women had any medical supervision during pregnancy. Since that time, prenatal care has become the established rule of modern obstetricians. Many physicians are able now to give such instruction to their private patients. Clinics have been established to care for the underprivileged in the large cities. Delivery care is given in addition when these clinics are associated with the larger hospitals or medical schools. Only a few of the underprivileged women in rural sections have received adequate antepartum and delivery care. Postpartum examinations have lagged behind these two services.

With the coming of Social Security, Alabama was able to expand prenatal services. The public health nurses had been rendering nursing service to expectant mothers. Three counties had prenatal clinics associated with their hospital out-patient department. During the past four years, thirty-four counties have established prenatal and postnatal medical supervision for the underprivileged in over 80 centers. Delivery service is now available in two counties for these women. Three of the six steps in the ideal maternal

hygiene program are now available to a portion of the women in Alabama. A fourth step, that of baby-spacing, is to be made available as an additional service rendered at the postpartum examination. The addition of the baby-spacing service has been sanctioned by the action taken by the American Medical Association approving the establishment of such services in clinics and hospitals and by the approval of the Medical Association of the State of Alabama at the meeting in Mobile in 1938. The public has made increasing requests for the rendering of such service to the underprivileged who cannot afford to obtain it from physicians. It is planned that clinical supplies will be furnished in the beginning from a central bureau organized by a maternal welfare committee composed of lay individuals aided by a medical advisory board composed of three physicians, one of whom will represent the State Department of Health. Patients, when able, will be expected to defray a small portion of the cost of supplies. While this Bureau may serve as a revolving agency for supplies, in time the deficits of the various centers will have to be cared for locally.

With these three services of the ideal maternal hygiene program already available to many of the underprivileged women in thirty-seven counties, is it too much to expect that in time the well-rounded maternity program may be available and used by all women in Alabama?

E. F. D.

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E., Director

TYPHUS FEVER CONTROL

BY RAT EXTERMINATION

The effectiveness of mass rat extermination on a wide-scale basis as a means of controlling typhus fever was demonstrated following the peak year of the disease in 1933 when 823 cases of the disease were reported and 35 deaths were attributed to it. An intensive rat-poisoning campaign covering 22 counties in the infected areas was conducted from December 15, 1933 through Feb-

ruary 1934. The number of cases of the disease reported for the year following this campaign was 273 with 18 deaths, against the above stated 823 cases and 35 deaths for the previous year.

The control of typhus fever being practically a new field of endeavor, special efforts at that time were not directed during the program towards the detection of suspected reservoirs of infection and their elimination. As a result, a gradual increase in the incidence of the disease was noted each year. By 1937, a total of 495 cases was recorded from 36 counties.

Due to the high cost of operation by mass extermination on a wide-scale basis, and because local funds had to be secured for their operation, future control programs were confined to limited areas in the vicinity of reported cases. This method of control afforded only temporary relief, due to the fact that all infected rats had not been exterminated, or others soon migrated in from nearby infected reservoirs.

From our observations it would seem that the only means of maintaining permanent reduction in the incidence of the disease in the areas where large numbers of rats have become infected is by continuous rat control whereby the number of infected rats can be kept at a minimum.

The occurrence of localized outbreaks of the disease in areas previously considered typhus free caused attention to be directed to the necessity of early detection of newly established reservoirs of the infection; and methods to be used in their elimination, in order that the disease would not become widespread among the rats in these localities.

Based on experience gained in past control programs by extermination, and the adoption of a procedure aimed at the detection of infected reservoirs and their elimination, the following procedure was adopted for use as a guide in the operation of all future control programs:

1. Immediate epidemiologic investigation of cases to determine, if possible, the source, severity and termination.
2. Surveys of the place of employment and residence, noting species of rodents and amount of infestation.
3. History of present and previous cases, if any.

4. Survey of area where control program is to be operated, to determine amount of infestation, predominant species of rats, and conditions existing favorable to rat propagation.

5. Estimated cost of a complete program by mass-poisoning over the entire area, followed immediately by a trapping campaign.

6. Education of residents by lectures, picture shows, through the press and by radio programs as to the dangers of rat infestation, and the necessity of limiting the food supply of rats and the destruction of rat harborages.

The effectiveness of this procedure was demonstrated in the control of five localized outbreaks occurring in widely separated sections of the State during the last quarter of 1938, and the year 1939. A detailed account of these outbreaks is recorded as follows:

AREA NUMBER ONE

The first outbreak occurred in Demopolis (Marengo County), located in the mid-western part of the State. Only three cases had been previously recorded in the county since it had been made a reportable disease in 1932. One of these cases had been reported in 1935, and two in 1936. A total of eight cases occurred during the month of October 1938. Investigations of the outbreak revealed the following:

History and Termination

Histories obtained from attending physicians showed that all cases ran a characteristic but mild course. Diagnosis was confirmed by laboratory findings. Multiple cases in families were not reported, and no fatalities occurred.

Field Findings

Surveys of places of employment and residence showed that all persons contracting the disease worked within an area of two blocks in the business section of the city.

A survey of the city at large revealed a heavy rat infestation. While three species of rats were identified, the *Rattus Norvegicus* predominated, but in the suspected portion of the business area the *Rattus Alexandrinus* and *Rattus Rattus* appeared to outnumber the *Rattus Norvegicus*. Numerous structural and incidental harborages were in evidence over the entire area.

and there was an evident lack of satisfactory garbage collection and disposal.

Education

In cooperation with the local health department, numerous articles were given to the press, and lectures and picture shows were given to civic groups. Estimates of costs for the operation were submitted to city officials and approved.

Control

The project began operating on October 20, 1939. A training course lasting two days was conducted by an experienced representative from the State Department of Health. This included rat identification and effective methods of control, both for handling poison and the placing of traps. Following this program which lasted approximately two and one-half months, no cases have been reported from Demopolis since completion of the work.

AREA NUMBER TWO

The second outbreak occurred in Uniontown (Perry County), located about 20 miles east of Demopolis. From one to four cases of the disease had been reported from this county each year since 1932. During the months of December 1938 and January and February 1939, a total of seven cases were reported.

History and Termination

Histories obtained from attending physicians showed that all cases ran a characteristic but severe course. Diagnosis was confirmed by laboratory findings. Multiple cases in families were not reported and no fatalities occurred.

Field Findings

Surveys of places of employment and residences showed that all persons contracting the disease were employed in commercial establishments in one block of the main business section of the city. Several of the cases reported in previous years had been employed in the same establishments.

A survey of the city revealed a heavy rat infestation. Three species of rats were identified. The *Rattus Norvegicus* predominated, and was the only species trapped or found following poisoning campaigns in the business area.

A few *Rattus Rattus Rattus* and *Rattus Rattus Alexandrinus* were captured in the residential areas. Ideal conditions for rat propagation were in evidence in all parts of the city. There was an evident lack of satisfactory garbage collection and disposal.

Education and Control

The same methods were used in the preparation, organization and operation of the program as had been done in Demopolis. This project was operated for approximately three months, beginning in January 1939. Further cases have not been reported in this city.

AREA NUMBER THREE

The third of these outbreaks occurred in the town of Pinckard (Dale County), located in the southeastern section of the State. Numerous cases of the disease had been reported in this locality over a period of years. Nine cases were reported by one physician from December 18, 1938 to January 5, 1939.

History and Termination

Histories obtained from the attending physician showed all cases to be of a severe type. Diagnosis was confirmed by laboratory findings. Multiple cases to the extent of seven occurred in one home, and two in an adjoining home. One fatality was reported from the disease, and another attributed to pneumonia, with typhus fever as a contributory cause.

Field Findings

Survey of the residences showed that seven of the nine cases lived in one home, and two in adjoining homes, all located on the outskirts of the town. A heavily rat infested barn on one of the premises had recently been removed and rats were found nesting in the attics of these homes.

A survey in the immediate vicinity showed a heavy rat infestation of outhouses. All rats trapped in the attics of these homes were *Rattus Rattus Alexandrinus*. The business area of this village was found to be heavily infested. The predominant rat found in this section was the *Rattus Norvegicus*. Note: Patients of this outbreak were employed in fields.

Education and Control

The same procedure was used in inaugurating a control program as in previous

outbreaks. Funds were obtained for the operation of an extermination program, and work began on January 20, 1939 and continued until May 4, 1939. Reports of further cases of the disease have not been received from this vicinity.

AREA NUMBER FOUR

The fourth of these localized outbreaks was reported from Lamar County, which is located in the middle section of the northwestern quarter of the State. The area is about 15 miles from the town of Vernon in an isolated farm section. No cases had previously been reported from this county. However, in June 1939, four cases were reported.

History and Termination

Histories of these obtained from the County Health Officer showed that all ran a mild course. Diagnosis was confirmed by laboratory findings in two cases. Multiple cases to the extent of four occurred in one family. No fatalities were reported.

Field Findings

Surveys revealed a heavy rat infestation in outhouses, and a large colony of rats living under the residence. The entire family was employed in the fields during the day and lived in one building. This family had not visited in any of the neighboring towns or villages for months. No previous histories of cases were reported in the family. The only species of rat found was the *Rattus Norvegicus*.

Education and Control

Due to the isolated area in which this outbreak occurred and the limitation of the extermination of rats to one home and outbuildings, the educational program was limited to members of this one family. Further cases have not been reported from this vicinity or county.

AREA NUMBER FIVE

The fifth outbreak occurred in Anniston and Oxford (two adjoining towns in Calhoun County), located in the eastern section of the north half of the State. An average of two cases a year had been reported since 1932. A total of 18 cases occurred in the county from July 1939 to November 1939.

The first case was reported in July, from the city of Anniston. Ten cases were reported in August. Seven of them were from Anniston and the other three from Oxford. Seven cases occurred in September and October, with five in Anniston and two in Oxford.

History and Termination

Histories obtained from the County Health Officer and attending physicians showed a majority of the cases ran characteristic but mild courses. One ambulatory case was recognized. Multiple cases in families were not reported, and no fatalities occurred.

Field Findings

Surveys of places of employment in Anniston showed that all persons contracting the disease were either employed or spent considerable time in certain heavily rat-infested commercial places. In two adjoining buildings of the business section, three cases developed among employees in one establishment, and two in the other establishment. In Oxford, several cases developed among the employees of a wholesale establishment, and the *Rattus Norvegicus* population was heavy in both of these municipalities. However, a few *Rattus Alexandrinus* were captured. Numerous incidental and structural harborages were noted, and there was an evident lack of proper garbage collection and disposal.

Education and Control

The same procedure was used here as in previous outbreaks. Extermination work was begun in both cities on September 20, and was extended to suburban areas. The project closed December 19, 1939. Although further cases of the disease have not been reported to date, sufficient time has not elapsed to completely evaluate the results obtained.

SUMMARY

While the results obtained in these five localized outbreaks only cover a period of a little more than a year, the effects of the program, so far, indicate that the incidence and spread of typhus fever can be retarded, temporarily at least, by the application of planned and directed extermination programs.

It is interesting to note that the disease ran a rather severe course in the localities where there was evidence that the reservoirs of the infection were of long standing.

Another interesting observation was that multiple cases of the disease in families only occurred where colonies of rats lived in the dwelling, or in close proximity, and had access to the buildings. All cases in the other outbreaks seem to have been contracted in or about places of employment.

The surveys in two outbreaks showed that the *Rattus Rattus Rattus* and *Rattus Rattus Alexandrinus* were predominant at points suspected of being reservoirs of the infection; and in the other three, the *Rattus Norvegicus*.

It will also be noted by these records that outbreaks occurred in the winter, summer and fall months; which would indicate that cases of the disease will occur when reservoirs of the infection are established in close proximity to residences or places of employment regardless of the season of the year.

A. J. P.

CURRENT STATISTICS

'PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

1940

	Jan.	Feb.	Estimated Expectancy Feb.
Typhoid	4	6	14
Typhus	16	15	8
Malaria	75	48	56
Smallpox	0	0	6
Measles	157	317	917
Scarlet fever	104	60	83
Whooping cough	50	81	99
Diphtheria	52	31	81
Influenza	4319	3421	1196
Mumps	56	57	155
Poliomyelitis	4	3	3
Encephalitis	1	0	3
Chickenpox	123	125	223
Tetanus	4	5	3
Tuberculosis	133	206	302
Pellagra	10	15	14
Meningitis	6	4	9
Pneumonia	800	1004	620
Ophthalmia neonatorum	0	0	0
Trachoma	0	0	0
Tularemia	3	0	3
Undulant fever	2	2	2
Dengue	0	0	0
Amebic dysentery	1	0	0
Cancer	137	181	0
Rabies—Human cases	0	1	0
Positive animal heads	16	14	

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

Book Abstracts and Reviews

PNEUMOCONIOSIS (Silicosis). The Story of Dusty Lungs. By Lewis Gregory Cole, M. D., and William Gregory Cole, M. D. Cloth. Pp. 290. Price, \$1.00. New York, N. Y.: John B. Pierce Foundation, 1939.

The book is a log of a painstaking pathological study made by the authors under a grant from the John B. Pierce Foundation. It is a valuable contribution to the literature on pneumoconiosis since it affords additional means to the end of working out a picture of the morbid anatomy of the disease that will command general acceptance and pave the way for more accuracy in the control of dusty lungs.

Whether interested in pathology or not it is a book that can be read by any physician with profit to himself. Highly technical details are sufficiently explained. The approach is logical, the work is comprehensive, the research is original.

After stating the problems of pneumoconiosis (dusty lung), the reader is afforded a clear background for a study of the morbid changes that occur as the result of the inhalation of dust when the authors present a travelogue of the dust particles trailed by collagen. Four types of pneumoconiosis are described which are of special interest to industrial physicians, but any student of pneumonia, tuberculosis, miliary carcinoma or other conditions affecting the lungs may benefit from an inside view by description of the uncollapsed lung.

J. R. C.

BRUCELLOSIS IN MAN AND ANIMALS. By I. Forest Huddleson, D. V. M., M. S., Ph. D., Research Professor in Bacteriology, Michigan State College; with the collaboration of A. V. Hardy, M. D., Dr. P. H., Associate Professor of Epidemiology, DeLamar Institute of Public Health, Columbia University Medical School, Consultant, U. S. Public Health Service; J. E. Debono, M. D., M. R. C. P., Professor of Pharmacology and Therapeutics, Royal University of Malta, and Ward Giltner, D. V. M., M. S., Dr. P. H., Dean of Veterinary Division and Professor of Bacteriology, Michigan State College. Cloth. Pp. 360, with 40 figures (some colored). Price, \$3.50. New York: The Commonwealth Fund, 1939.

This book is an enlargement and expansion of Huddleson's "Brucella Infection in Animals and Man" which was definitely a manual on methods of laboratory diagnosis. The present edition not only includes all the material of the first, brought up to date, but deals with the clinical aspects of the disease as well. These medical sections have been contributed by men of long and wide experience of the disease, not only in the United States but also in Malta. The authoritative exposition of the phases of the subject—isolation and differentiation of the Brucella, laboratory diagnosis of Brucellosis, epidemiology of Brucellosis in man and animals and eradication or control of sources of Brucella infection—cannot be questioned.

The book is well written, easy to read, well illustrated, thoroughly documented, well bound and stands today as by all odds the best book on the subject available. It should by all means be widely read by medical practitioners among whom there is a vast amount of ignorance and misunderstanding of the subject.

S. R. D.

Cancer of the Larynx. By Chevalier Jackson, M. D., Sc. D., LL. D., F. A. C. S., Honorary Professor of Broncho-Esophagology; and Chevalier L. Jackson, A. B., M. D., M. Sc. (Med.), F. A. C. S., Professor of Broncho-Esophagology, Temple University. Octavo of 309 pages with 239 illustrations, including 5 plates in color. Cloth. Price, \$8.00. Philadelphia: W. B. Saunders Company, 1939.

This volume on Cancer of the Larynx is the most complete and authoritative on this type of work which we have seen. It is primarily a complete reference for the otolaryngologist doing cancer of the larynx and is therefore of limited value to general practitioners whose only interest is the ability to recognize suspicious symptoms and have some idea of what might be done. However, the typical charming manner in which it is written and the many illustrations in color drawn by the senior Dr. Jackson, which have never been equaled, make it easy and pleasant reading for almost any medical man. Who but he would write a chapter on the human side of laryngectomy; and the bibliography of the history of cancer of the larynx gives him little enough credit for the immense contributions which he has made.

The surgical techniques are complete in every detail even to the methods of tying sutures and other minor points. With the many colored plates one might wish for a colored plate of the surgical steps and the field as seen in the laryngofissure and laryngectomy but this is well covered by many pen drawings.

The chapter on x-ray and irradiation are rather brief as compared with the surgical aspects and as compared with the enormous amount of literature and research being done in this line. However, the evaluation of its use seems to be very fair; and while it is still admittedly in a highly experimental stage as contrasted with surgery, the excellent results of which have been long established, the authors are frank to say that we must be ready to change all of our ideas at any time should the evidence justify it. They do not feel that to be the case yet.

P. S. M., Jr.

Fleas of Eastern United States. By Irving Fox, Department of Zoology and Entomology, Iowa State College. Cloth. Pp. 191. Price, \$3.00. Ames, Iowa: Iowa State College Press.

The book recently published by Irving Fox entitled *Fleas of Eastern United States* is a timely publication, due largely to the fact that no other revision in the order of American Siphonaptera has been made in recent years. The book deals mainly with 55 species, falling into five families, comprising 33 genera known to occur in this section of the country.

Methods for the collection of ectoparasites for identification, and procedures for mounting specimens are thoroughly explained.

The description of order, suborder and family is clearly defined.

The synonymic index and host index are valuable additions to the work.

The 31 plates showing 166 anatomic parts of fleas are well drawn and should be of value in identification work.

Authorities are becoming increasingly concerned as to the possible implication of the flea in

the transmission of diseases, other than bubonic plague, to man.

The conviction of rat-fleas in recent years as the mode of transmission of typhus fever to human beings, makes this book a particularly valuable contribution to public health, especially in the Southeastern States where the disease is endemic.

A. J. P.

The Essentials of Applied Medical Laboratory Technic. By J. M. Feder, M. D., Director of Laboratories and Allergic Service, Anderson County Hospital, Anderson, S. C. Cloth. Pp. 234. Price, \$5.00. Charlotte, N. C.: Charlotte Medical Press, 1940.

The author's expressed purpose in writing this manual is to provide an aid for the physician, the small hospital or the small clinic in maintaining at minimum cost an efficient laboratory unit. This idea is excellent. There is certainly a need for a volume which would give assistance to the inexperienced in setting up and maintaining an efficient small clinical laboratory at a low cost. However, a laboratory manual for the inexperienced is dangerous when numerous typographic errors and inconsistencies appear in its pages. Such errors show a distressing lack of regard for the very people for whom the book is intended. Careful proof reading of the book before publication would have been of much benefit.

Some of the errors noted are the following:

On page 183 the gonococcus is described as a Gram-positive diplococcus.

On page 153 *Strongyloides intestinalis* ova are listed as being commonly found.

Temperature of incubation is given as 37°C. in certain portions of the book and as 37.5°C. in other portions.

Trypsin agar is given as the medium recommended by Huddleson for cultivation of *Brucella*.

Fixed smears are stated to be unsatisfactory for examination for trichomonads.

Rabies vaccine is termed serum.

The protocol for heterophile antibody determination in infectious mononucleosis contains an obvious typographic error which makes it useless as a guide to the uninitiated.

A portion of a paragraph on blood transfusion on page 74 is almost hopelessly jumbled.

Frequent words are encountered in which letters are left out or are transposed.

On page 50 a modified method is described for staining a blood film that is too thick; on page 162 this method is referred to as being used for a film that is too thin.

C. B.

Scarlet Fever. By George F. Dick and Gladys Henry Dick. Cloth. Pp. 149, with 8 illustrations. Price, \$2.00. Chicago, Ill.: The Year Book Publishers, Inc., 1939.

The first part of this book is devoted to a description of scarlet fever—its history, etiology, symptoms, diagnosis and treatment. It gives a well written presentation of the disease and its management. The last half of the book gives the authors' story of their investigational work on this disease and discusses such controversial sub-

jects as the specificity of scarlet fever streptococci, allergy and immunity. Not all will agree with the authors' viewpoint but their arguments are presented in a clear cut manner.

D. G. G.

Virus and Rickettsial Diseases With Especial Consideration of Their Public Health Significance. A Symposium held at the Harvard School of Public Health, June 12-17, 1939. By various authors. With a foreword by Hans Zinsser, M. D., Sc. D., Charles Wilder Professor of Bacteriology and Immunology, Harvard University. Cloth. Pp. 872. Price, \$6.50. Cambridge, Mass.: Harvard University Press, 1940.

A review of such a work is impossible due to the diversity of subject material. Suffice it to say that the epidemiologic problems, physical and chemical properties of filtrable viruses and immunology of infections with filtrable viruses are first considered and serve as a background for the discussion that follows. This discussion takes up in detail the different filtrable virus diseases of public health importance in separate chapters devoted to various phases of each.

The symposium at which these papers were presented was held at Harvard in the summer of 1939 primarily for the purpose of offering an opportunity for discussion of the problems of infectious disease in which viruses are involved. The inclusion of the rickettsial diseases was due to the fact that confusion has until recently existed as to the differentiation of the inciting agent in certain conditions.

Primarily this collection of papers brings together the reliable results of investigation in these two fields up to the present time and may well serve as fundamental reading before going deeper into the subject.

"Publication was undertaken because it was hoped that at the present state of virus investigation—a stage which we may regard as merely the beginning of an era in medicine which already equals in importance the most brilliant period of modern bacteriology—a contemporaneous survey might be found useful."

S. R. D.

Primer of Allergy: A Guidebook for Those Who Must Find Their Way through the Mazes of this Strange and Tantalizing State. By Warren T. Vaughan, M. D., Richmond, Virginia. Cloth. Price, \$1.50. Pp. 140. St. Louis: The C. V. Mosby Company, 1939.

Vaughan's Allergy and Applied Immunology was first published in 1930 and revised in 1934. Finding it impossible to incorporate in one volume all the facts so essential to the physician and at the same time keep it brief enough to serve as a guide to the patient, the author has written two volumes. His "Practice of Allergy" is a masterpiece which will probably rank first in the opinion of most allergists who read it. His "Primer of Allergy" is a little book written solely for the guidance of the patient. There is no other book available that serves this purpose satisfactorily. Balyeat's "Allergic Diseases" was ideal until revisions increased its size to such an extent that it became too long for the average patient. Vaughan's Primer will therefore fill a definite need.

Anyone who treats allergic diseases realizes the necessity of having his patient know as much as possible about his condition. The average patient reads with gusto anything pertaining to his illness. He keeps notes, brings in reports and helps in every way when he is made to understand that his doctor needs his help. If he reads Vaughan's Primer he will understand better not only what his physician is trying to do, but also what his physician expects of him. If he learns only that with time, patience and cooperation the cause of his trouble will be discovered and relief obtained, the reading of this book will have served a worthwhile purpose. The reviewer's copy is already looking shopworn. Soon there will have to be other copies to meet the patients' demand for something to guide them through the intricacies of an allergic regimen.

C. K. W.

The 1939 Year Book of Pediatrics. Edited by Isaac A. Abt, D. Sc., M. D., Professor of Pediatrics, Northwestern University Medical School; Attending Physician, Passavant Hospital; Consulting Physician, Children's Memorial Hospital and St. Luke's Hospital, Chicago; and Arthur F. Abt, B. S., M. D., Assistant Professor of Pediatrics, Northwestern University Medical School; Associate Attending Pediatrician, Michael Reese Hospital; Attending Pediatrician, Chicago Maternity Center; Attending Physician, Spaulding School for Crippled Children and La Rabida Jackson Park Sanatorium, Chicago. Cloth. Price, \$2.50. Pp. 520. Chicago: The Year Book Publishers, 1939.

In this book Dr. Abt has maintained the same high standard of his previous volumes. It is quite excellent as a reference source since you have at your fingertips all of the best articles on pediatric subjects that appeared in the medical literature of the world during the year 1939. Also, you will appreciate the very interesting comments of Dr. Abt which follow many of the articles. These articles are greatly condensed but retain all of the most important facts. The journal, date, volume and page of each article are given so that if you desire to go into greater detail and read the original article you can do so. I would especially recommend this book for the busy practitioner who does not have time to read all the original articles but would like to keep up to date on pediatric subjects.

J. S. S.

Diseases of the Mouth and Their Treatment: A Text-Book for Practitioners and Students of Medicine and Dentistry. By Herman Prinz, A. M., D. D. S., M. D., D. Sc., Dr. Med. Dent.; and Sigmund S. Greenbaum, B. S., M. D., F. A. C. P. Second edition, thoroughly revised. Cloth. Price, \$9.00. Pp. 670, illustrated with 324 engravings and 12 colored plates. Philadelphia: Lea and Febiger, 1939.

This is a text-book for students and practitioners of medicine and dentistry. It is an excellent reference book for the dental practitioner, as most diseases described are not diseases the average practitioner contacts every day.

There are eighteen chapters including Embryology, Anatomy, Physiology, Symptomatology of the Oral Cavity, Oral Manifestations of Local Origin and Infectious Diseases, Diseases of the Tongue, Lip, Cheek, Palate, Salivary Glands, and Floor of the Mouth. The last chapter contains therapeutic suggestions which can be of great value to the dentist.

It not only is an excellent text for the dental practitioner but also for the physician because many of the maladies dealt with are general systemic diseases with symptoms appearing in the mouth.

The description of each disease follows a definite plan: synonyms, definition, etiology, symptoms, diagnosis, prognosis, treatment. Illustrations are presented for the majority of the diseases described. Twelve of them are in color, and all of them are helpful in the understanding of the text.

B. P. E.

The Patient's Dilemma: The Quest for Medical Security in America. By Hugh Cabot, M. D. Cloth. Price, \$2.50. Pp. 284. New York: Reynal and Hitchcock, Inc., 1940.

A prominent Alabama newspaper man was talking.

"I have a good job, a mighty good job as jobs go," he said. "I'm getting along well, am saving money and have a pretty good bank account. But," and here his manner became more serious, "if either I or my wife were to have a long period of sickness and a big doctor's bill, I'd be so far in the hole, I'd not be able to get out for years."

The fear that Alabamian expressed of financial disaster and perhaps even an old age of want and dependence is shared by millions of other Americans. For every person who dreads sickness because of the pain it causes, there must be a dozen who dread it because of the expense it brings, its inevitable upsetting of family budgets, its demanding the money which a youngster needs for a college education, or its ruthless pushing farther and farther into the future the day when a couple will be able to own a home. The late Boston department store magnate, Edward A. Filene, was probably guilty of understatement when he declared that the financial burdens accompanying illness caused "almost as much suffering as the disease itself."

On the high cost of proper medical, nursing, laboratory and hospital care in time of illness there is almost complete agreement. Members of the American Medical Association have discussed it from uncounted platforms and in innumerable magazine and newspaper stories. Sociologists have lamented it. Representatives of labor groups have called it one of the most serious problems facing the man and woman who work with their hands. Those who speak for the great unorganized and largely inarticulate majority—the man on the street—say that here is a problem as baffling as the cure of tuberculosis. The federal government never misses an opportunity to tell of those who must die, or at least suffer unnecessarily, because good health comes too high.

But that is about as far as there is anything like general agreement. The *how* of removing proper health protection from its place as the rich man's luxury and putting it at the command of all has inspired more debate, created more misunderstanding and controversy than Louis Pasteur's attacks upon the cherished theories of his time. The American Medical Association and organized medicine generally insist, and back up their insistence with some pretty impressive facts and

figures, that the provision of adequate health care should continue to be the responsibility of the private practitioner. They oppose the entrance of the federal government into what they consider their peculiar field, and warn of waste, inefficiency, lowered professional standards, loss of the time-honored American privilege of making a free choice of one's medical advisor, and a host of other evils if any large amounts of the taxpayers' money are spent for the maintenance of health services beyond the normal scope of the regular public health agencies. Taking a directly opposite tack are those who insist that health protection—in the curative as well as the preventive field—is as much a governmental function and duty as the building of safe highways and the support, in whole or in part, of schools and colleges. Among this number—conspicuously among this number, one might add—is Dr. Hugh Cabot, whose book, "The Patient's Dilemma," recently came from the binderies.

Dr. Cabot's point of view is not surprising perhaps in view of his experience. Although the publishers point out, in their biographical sketch, that he is "a distinguished American surgeon" and "a member of many medical societies, including the American College of Surgeons and the American Medical Association," it would appear that considerably more of his time has been spent as a teacher and medical school executive than as a practicing medical man. His book shows particularly the influence of his nine years as consulting surgeon of the Mayo Clinic, which seems to him to approximate what should be aimed at in socialized medicine.

Although the book contains eleven chapters, the one which appears to contain the greatest concentration of the Cabot philosophy of health protection is the one (No. Ten) headed "The Government and Medical Care." In those nineteen pages he outlines and defends his thesis that the sort of medical care now made available to the person of limited means is altogether inadequate, that no improvement can be expected as long as private practitioners must depend upon individually collected fees for their livelihood, and that the government owes a duty to its citizens to step in and not only supply the funds needed to make adequate care available but also, practically if not literally, to take control of the job, taking this authority away from the private physician.

"The socialization of medicine involves no new principle and we have in fact been socializing medicine for many years," he wrote. "Supervision of the public health and many public measures under the general heading of 'preventive medicine' began in the last century. Progressively, we have taken over the care of categories of disease and it is quite clear that we propose to continue to extend the field. Thus, in various parts of the country taxation has been employed for the care of chronic diseases such as rheumatism and cancer. More recently it is apparent that there is large public approval behind a campaign to bring under control and abolish—if possible—syphilis and the gonococcus infections. Looked at in this way the socialization of medicine is as inevitable as it is beneficial."

The medical profession has shown little opposition to—and in some instances considerable approval of—the suggestion that the government pay for proper medical care for those too poor to pay for it themselves. The thought has even been advanced that county medical societies receive grants as compensation for professional services performed by their members without collecting fees. Thus would be solved one of medicine's thorniest problems, the payless practice, which has been estimated at one million dollars a day. But Dr. Cabot will have none of that, if he can help himself. To his way of thinking, if the government is to foot the bills, the government must give the orders. And right there he runs into one of the most cherished tenets of American medicine.

"There has been insufficient recognition of the fact that as Government becomes responsible for expenditures, it must assume responsibility for the standards under which such expenditures are made, and for the prudent use of funds," he avers. "We have had sufficient evidence to convince the most skeptical that the simple provision of funds may have a result quite different from that intended and may even bring a whole venture into disrepute. The appropriation of monies in and of itself is almost as likely to do harm as good."

It goes without saying that medical men who consider socialized medicine a serious personal and professional threat will be quick to take issue with Dr. Cabot and begin a general assault upon his arguments and contentions. Just as William Randolph Hearst used to build circulation for his newspapers by attacking almost everything from Hudson Valley milk to the British Empire, so this author is likely to find many readers for his book because nothing is read with such eager interest as an attack upon something or somebody. It is not at all surprising, therefore, that "The Patient's Dilemma" is being widely read and discussed both inside and outside the medical profession.

J. M. G.

Injection Treatment of Hernia, Hydrocele, Ganglion, Hemorrhoids, Prostate Gland, Angioma, Varicocele, Varicose Veins, Bursae and Joints. By Penn Riddle, B. S., M. D., F. A. C. S., Assistant Professor of Clinical and Operative Surgery, Baylor University, College of Medicine; Director of the Varicose Vein Clinic, Parkland Hospital, Dallas, Texas. Cloth. Price, \$5.50. Pp. 290, with illustrations. Philadelphia and London: W. B. Saunders Company, 1940.

Success in the injection treatment of internal hemorrhoids and varicose veins has been responsible for careful studies of materials used and their effect on the tissues, indications, contraindications and end results. The extension of the use of the sclerosing principle in treatment of other conditions, though of less acceptance to the general profession than with hemorrhoids and varicose veins, is meeting with much success.

In the case of hernia, with a proper understanding of the anatomy of the region and pathology of the particular hernia, with the indications, contraindications methods of injection and limitations of the method, success may be expected in many cases and the method may be preferable to surgery. The first section of the

book deals with sclerosing treatment of hernia—the anatomy, pathology, diagnosis of type of hernia, fitting of trusses, materials used and techniques of injection.

Part II deals with varicose veins—their anatomy, pathology, diagnostic problems, complications, indications for injection and technique of injecting and of ligating the great saphenous vein.

Part III covers the subject of hemorrhoids. Subsequent chapters deal with varicose veins, varicocele, ganglion, bursae, joints, angioma and prostate gland.

Profusely illustrated, each step in the procedure is made apparent. The author makes it clear that the methods are not always free of pain or other inconvenience and that they cannot be done hurriedly. Among patients of poorer classes this method makes available relief of conditions which they could not otherwise afford.

C. K. W.

Functional Disorders of the Foot: Their Diagnosis and Treatment. By Frank D. Dickson, M. D., Orthopedic Surgeon, St. Luke's, Kansas City General and Wheatley Hospitals, Kansas City, Missouri; and Providence Hospital, Kansas City, Kansas; and Rex L. Devey, M. D., Orthopedic Surgeon, St. Luke's, Kansas City General and Wheatley Hospitals, Kansas City, Missouri; and Providence Hospital, Kansas City, Kansas. Cloth. Price, \$5.00. Pp. 305 with 202 illustrations. Philadelphia: J. B. Lippincott Company, 1939.

In this age when fashion dictates the footgear to be worn by the public and when automobiles are exercised instead of the feet, many people are suffering from foot disorders and must seek relief from these ills. The neglect of the foot and its proper balance during the formative periods of childhood and adolescence contributes also to the functional disorders of the foot as seen in adults. The medical profession should realize the importance of these foot ills and prepare itself to handle them properly. Dickson and Devey have written a book which should stimulate interest in this subject.

The facts presented are based largely on personal experience and observation but the authors have not hesitated to quote from the authoritative works of others. The first chapters deal with such topics as "Types of Foot Adapted to Arboreal and Terrestrial Life," "Anatomy and Physiology of the Foot," "Primary Causes of Foot Imbalance," and "How to Examine the Foot." Chapters six through nine deal with the "Foot in Childhood," and with "Foot Imbalance in Childhood, Adolescence and Adult Life." Here they show in a lucid manner that adult foot disorders are a progressive affair which have their beginnings in the early formative years of childhood and adolescence. They stress a clearer understanding of the foot and its balance in these early years.

The later chapters deal with the functional disorders of the various bones of the foot as well as their correction and the proper fitting of hose and shoes. Several of the constitutional diseases affecting the foot are briefly mentioned and should have received fuller treatment by the authors. A final chapter on "Strapping the Foot" and "Foot Exercises" concludes the monograph.

There is a quite comprehensive bibliography in the back of the book. Every chapter is briefly summarized thus increasing its usefulness for quick reference. The book is profusely illustrated with photographs and diagrams.

Those interested in this subject will find this book very instructive and equally entertaining. Those not interested should read it anyway.

H. J. C.

Human Helminthology. By Ernest Carroll Faust, A. B., M. A., Ph. D., Professor of Parasitology and Director of Laboratories, Department of Tropical Medicine, Tulane University of Louisiana, New Orleans, Louisiana. Second edition, thoroughly revised. Cloth. Pp. 780, with 302 engravings. Price, \$8.50. Philadelphia: Lea and Febiger, 1939.

This second edition of *Human Helminthology* has been thoroughly revised and brought up to date. It is divided into five sections: I. The Scope of Helminthology. II. The Platyhelminthes or Flatworms. III. The Nematelminthes or Roundworms. IV. The Acanthocephala or Thorny-Headed Worms. V. Technical Aids in the Diagnosis and Treatment of Helminthic Infections.

The group of parasites considered in this book are usually referred to as "helminths" or worms. Originally "helminth" referred to an "intestinal worm" but for years now "helminth" refers to two great divisions, namely, Platyhelminthes or flatworms and Nematelminthes or roundworms. Since parasitism began as a chance contact of one organism with another, the adaptation of helminths to parasitic existence and the adaptation of the host to parasite are discussed. But human parasitism by helminths "was well established millions of years before the dawn of human history." Hence, it is necessary to bring the knowledge of helminth diseases up to date. All factors influencing the distribution of helminths over the surface of the globe are ably considered.

The *Platyhelminthes* or Flatworms comprise all of those species of worms which are bilaterally symmetrical and which are usually compressed dorso-ventrally. The *Nematelminthes* or Roundworms comprise a very large group, a considerable proportion of which are parasitic for a part or the whole of their life cycle. These helminths are elongate, cylindrical in shape, round or pointed at both ends, fundamentally bilaterally symmetrical and possess a definite antero-posterior polarity. The *Acanthocephala* or thorny-headed worms are exclusively parasitic and are characterized by having two distinct parts to the body, the proboscis and the body proper. These helminths are usually grouped with the great division of *Nematelminthes* and not as a separate main division or phylum.

Under each main division the various species of helminths parasitic to man are quite completely considered and discussed.

Human Helminthology is an exceptionally well written book and would make a worthwhile reference book for every physician.

W. H. Y. S.

Textbook of Nervous Diseases. By Robert Bing, Professor of Neurology, University of Basel, Switzerland. Translated and enlarged by Webb Haymaker, Assistant Clinical Professor of Neurology and Lecturer in Neuro-Anatomy, University of California. Fifth edition (from fifth German edition). Cloth. Price, \$10.00. Pp. 838, with 207 illustrations including 9 in color. St. Louis: The C. V. Mosby Company, 1939.

Most medical students in America are familiar with Bing's "Regional Diagnosis." Now there is for the first time available for students and practitioners a "Textbook of Nervous Diseases" by the same author. The first edition in German appeared in 1913 and there have been four subsequent revisions. The current fifth edition has been translated into English for the first time. The translator, Doctor Webb Haymaker, is responsible for much of the success which this volume deserves for he has avoided the error of most translators who, by too literal adherence to the original text, write a stilted form of English that is irritating to the reader. He has also, with the author's permission, taken the liberty of making certain changes in the text which makes the volume more adapted to use by American readers.

Doctor Bing's lucid style indicates that he is a practical teacher. He has combed out all unnecessary theory and has packed his pages with essential anatomical illustrations, physiological explanations, diagnostic points and therapeutic outlines. As one reader says: "He tells you everything you want to know, wastes no words and never beats around the bush." He makes neurology seem as scientific as ophthalmology.

The subject matter is arranged in a logical manner based on pathological classification. Chapters deal with diseases of peripheral nerves, abnormalities of movement, diseases of the upper neurone, diseases affecting motor and sensory, spinal diseases, acute infections and intoxications, cerebral vascular diseases, brain tumors, functional disorders, brain injuries, cerebellar disease, endocrine disturbances, diseases of autonomic nervous system, convulsive disorders, headache and psychoneuroses.

C. K. W.

The Rectum and Colon. By E. Parker Hayden, A. B., M. D., F. A. C. S., Assistant in Surgery, Harvard Medical School, Boston, Massachusetts; Assistant Surgeon and Chief of Rectal Clinic, Massachusetts General Hospital, Boston, Massachusetts. Cloth. Price, \$5.50. Pp. 434, with 169 engravings. Philadelphia: Lea & Febiger, 1939.

The material of this volume has been very clearly and concisely presented providing both informative and interesting reading. The illustrations are good and assure lucidity of the text on points which are difficult of verbal explanation. The author makes a point of giving most space and detail to those pathological conditions of most clinical importance, and the work is nicely balanced from this point of view.

Although not included in the title, the anus comes in for its share of consideration. Those points of anatomy of interest to the proctologist are discussed. Methods of examination are described which must prove helpful to those who have to handle patients with rectal complaints. The chapter devoted to anorectal symptoms seems worthy of special mention. Doctor Hayden believes the injection treatment of hemorrhoids

to be satisfactory when the proper indications are adhered to. He deplores the practice of forcibly stretching the rectal sphincters which procedure has found favor in the past. Use of vaccines in idiopathic ulcerative colitis has not been helpful in his experience.

This book can be highly recommended for its practical application and should be welcomed by those who deal with ano-recto-colic disturbances in any way.

J. W. D.

Handbook of Orthopedic Surgery. By Alfred Rives Shands, Jr., B. A., M. D., Medical Director of the Nemours Foundation, Wilmington, Delaware; Associate Professor of Surgery in Charge of Orthopedic Surgery, Duke University School of Medicine, Durham, North Carolina (on leave of absence). In collaboration with Richard Beverly Raney, B. A., M. D., Associate in Orthopedic Surgery, Duke University School of Medicine. Illustrated by Jack Bonacker Wilson. Cloth. Price, \$4.25. Pp. 478, and 60 of bibliography. St. Louis: The C. V. Mosby Company, 1940.

The title of this book would possibly indicate that it is an outline of orthopedic surgery. It is, however, a great deal more than a mere outline, as it consists of a fairly complete list of orthopedic affections, together with a description of the etiology, pathology, prognosis and treatment of each. The treatment does not attempt to include operative technique, as this is left for larger books on orthopedic surgery. Many of the minor affections are discussed in greater detail, particularly as regards affections where non-operative treatment is indicated, than they are in many of the larger, more comprehensive books on orthopedic surgery. In short, the book is intended for students and general practitioners and it would seem to serve adequately the purpose for which it was written. The illustrations are well adapted to the text. The bibliography is very extensive and can be counted upon as an index for further reading in any particular subject desired. The book is strongly recommended to men in general practice who are usually the ones who first come in contact with individual orthopedic cases.

J. L. B.

Cardiovascular Diseases: Their Diagnosis and Treatment. By David Scherf, M. D., and Lewis J. Boyd, M. D., F. A. C. P., Associate Professor of Clinical Medicine and Professor of Medicine, respectively, the New York Medical College, Flower and Fifth Avenue Hospitals. Cloth. Price, \$6.25. Pp. 458. St. Louis: The C. V. Mosby Company, 1939.

Two teachers of clinical cardiology, having faced the problems of students at the bedside, have taken the questions asked and with these answers have put together a series of disconnected essays dealing with subjects which embrace every aspect of cardiovascular disease. They have also incorporated some of their own observations and experiments in the field of cardiovascular disease. These essays are written entirely from the clinical point of view and do not take into consideration, in arriving at a diagnosis, technical procedures such as roentgenology and electrocardiology. The material is therefore of special interest to those physicians who do not have access to the more complicated laboratory aids, but must rely on accurate observation and clear deduction in reaching a diagnosis. The phy-

sician who is well equipped with modern diagnostic instruments needs to develop his clinical sense since cardiac emergencies have a way of occurring not infrequently outside of the well equipped office.

If the physician is looking for a reference book, this will not fill his need. If he wants keen clinical descriptions of the common cardiovascular diseases, logical explanations for the various symptoms encountered and a simple discussion of therapeutic measures, he will find this book of great value. The physician who likes to read delightful essays dealing with clinical subjects will enjoy it.

H. J. C.

Sexual Pathology: A Study of Derangements of the Sexual Instincts. By Magnus Hirschfeld, M. D., Authorized English translation. Cloth. Price, \$2.95. Pp. 368. New York: Emerson Books, Inc.

Krafft-Ebing's "Psychopathia Sexualis" was published in 1886 and has undergone many revisions. Nevertheless it consists more of a description of sexual aberrations from the medico-legal point of view than an interpretation of abnormal behavior from the point of view of the psychiatrist. Krafft-Ebing was interested in sexual pathology as it was related to crime. Hirschfeld is interested in disturbances in sexual function as they interfere with the normal heterosexual life of man and woman. He is interested in its effect on the happiness of marriages and its relation to infertility in marriage. He draws from his own large experience many actual cases that illustrate his point. He searches for the explanation of the abnormal behavior. With true scientific attitude he had divorced morals from his consideration of these individuals who are, after all, more sick than sinful.

He devotes a large part of his book to fetishes and to hypererotism and almost a third of it to impotence and sterility. Too literal translation from the German has resulted in a stilted style that was undoubtedly absent in the original text but this can be easily overlooked by anyone who wants a more modern concept of sexual psychopathology than has been previously available.

C. K. W.

It is concluded from studies made at Johns Hopkins Hospital that until the effects of sulfanilamide on the human fetus or unborn child are better known the drug should be administered with extreme caution during pregnancy, *The Journal of the American Medical Association* for March 30 warns.

"The necessary observations in human beings should include a careful study of intra-uterine (inside the womb) development, birth weight and postnatal (following birth) growth in the infants born to mothers receiving extended sulfanilamide treatment during pregnancy," *The Journal* says.

"Using rats in carefully controlled experiments, Harold Speert has recently reported observations on the placental transmission (from the mother to the unborn child) of sulfanilamide."

THE JOURNAL

of

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Published Under the Auspices of the Board of Censors

Vol. 9, No. 11

Montgomery, Alabama

May 1940

SOME CONTRIBUTIONS OF NUTRITIONAL RESEARCH TO CLINICAL MEDICINE*

By

E. V. McCOLLUM, Ph. D.
Baltimore, Md.

Modern medicine was established on scientific principles through the discoveries of the relation of micro-organisms and of several parasites to disease. The discoveries of Pasteur, Koch and their successors were so spectacular that they overshadowed all other approaches to the etiology of disease for half a century. Investigators in clinical medicine became so imbued with the idea that disease was caused by some positive agent that they felt no need for including in their philosophy concerning the etiology of morbid conditions the concept that some of these, already long familiar, might result from deficiency of some indispensable nutrient. This limitation of the mind trained in clinical medicine is easily understood when we consider its background of instruction, and its unfamiliarity with the only branch of science which could afford the theory and the technic for successful investigation of the fundamental problems of nutrition, and of those physiologic processes in which the hormones participate and regulate. Biochemistry alone could bring to light the chemical processes of metabolism, the chemical nature of foods, the identity and isolation of their constituents, and the synthetic powers and limitations of the living tissues.

Those who are familiar with the literature of nutrition are aware that almost all that is known about normal and abnormal nutri-

tional states has been learned through animal experimentation, using diets which were inadequate and finding what additions or supplements would make them complete. In this manner various states of malnutrition were produced, which could be shown to be due to lack of one or another essential substance which the adequate diet provides. The symptoms observed in animals on different kinds of deficient diets suggested the application of the curative substances to the human patient exhibiting similar pathologic manifestations.

Notable exceptions to this generalization was the discovery, long ago, that scurvy could be prevented or cured by the consumption of fresh vegetable foods, and the discovery by some unknown physician that cod liver oil was a specific against rickets in infants and children. These two remedial discoveries stand out among the thousands of erroneous beliefs in the medicinal value of various herbs which modern experience does not substantiate.

The contributions of nutritional research to clinical medicine can best be presented by listing the chemical substances which an adequate diet must provide. In common practice we take as food a very complex mixture of a great number of chemical substances, among which are proteins, various carbohydrates, numerous fats differing in the nature of the fatty acid component, generally at least traces of every mineral element in nature, along with larger amounts of 15 or 20 of these, and a long list of simple chemical substances found in plant and animal tissues, some of which have not been isolated and identified. It has been the task of biochemists to isolate and identify the particular members of this complex mixture which have nutritive significance, and to learn more specifically the bodily processes in which they participate. The present state

*The Jerome Cochran Lecture, delivered before the Association in annual session, Birmingham, April 17, 1940.

of our knowledge warrants a description of the adequate diet as composed of approximately 36 chemical substances, 13 of which are inorganic and 23 organic substances. All of the organic components which have been identified have now been produced synthetically and are familiar substances. The following list shows further classification of the essential nutrients:

The protein element. Of 23 amino acids known to result from the digestion of proteins it appears that but 10 are indispensable nutrients.....	10
Mineral elements which have physiologic functions in normal metabolism: sodium, potassium, calcium, magnesium, chlorine, iodine, phosphorus, sulfur, iron, copper, manganese, zinc and cobalt.....	13
One fatty acid of the doubly unsaturated type. Linoleic, linolenic, or arachidonic acids have been shown to be mutually interchangeable.....	1
A source of glucose.....	1
Choline.....	1
Vitamins:	
A or its precursor, carotene	Fat-soluble and associated with fats 4
D—At least 10 related sterols possess antirickettic properties	
E (alpha-tocopherol)	
K (2-ethyl-2-phytyl-1, 4-naphtoquinone, and several related compounds)	
Thiamin (vitamin B ₁)	Water-soluble vitamins 6
Pyridoxin (vitamin B ₆)	
Riboflavin	
Nicotinic acid	
Pantothenic acid	
Ascorbic acid	Total 36

Discovery has rapidly followed discovery in the nutrition field during recent years, and experimental evidence clearly indicates that several nutrients exist which remain to be characterized chemically.

In discussing the contributions to clinical medicine arising from the fundamental discoveries relating to the indispensable nutrients, time permits only consideration of the best established facts.

Underfeeding as respects protein represents specific starvation for one or more of the essential amino acids. Our knowledge in this department of physiology is quite limited, for the reason that it has been impossible to obtain certain of these acids in

quantities necessary for experimental work. We have, therefore, no precise description of the pathologic processes which develop due to deprivation of one or another amino acid. Human experience tallies with animal experiments in showing that man and animals thrive best when nourished by diets containing liberal amounts of each of these digestion products of proteins. The Bengalese and many peoples in tropical lands afford examples of chronic undernutrition as respects protein. We are not able to determine at present in these instances the extent to which physical inferiority or specific developmental and metabolic defects are due to amino acid deficiency, since the diets of these peoples are defective as respects other nutritional factors. The protein element in nutrition is fully appreciated and the clinician understands the importance of providing a liberal supply during illnesses of kinds which accelerate the metabolic rate.

Vitamin A—We owe most of our exact knowledge of the pathology of vitamin A deficiency to Wolbach. Briefly, the effects are accumulation, in humans and animals, of keratinized epithelial cells in glands and ducts, and on mucous surfaces generally. Cysts and plugs may form in the bronchi and on the trachea. All epithelial tissues are affected. In this condition the desquamated keratinized cells form foreign bodies in glands, kidney pelvis and elsewhere. The pilosebaceous follicles become distended, and the skin acquires a harsh toad skin feel. In the view of Lehman and Rappaport,¹ keratosis pilaris, lichen spinulosus, ichthyosis follicularis, and other synonyms are all descriptive terms for various manifestations of vitamin A deficiency.

The discovery that vitamin A is a component of visual purple, and that the resynthesis of this visual pigment, which is constantly being destroyed in the retina when the eye is illuminated, fails in A deficiency is of capital importance to the clinician. Notwithstanding that there is still controversy over the reliability of the biophotometer readings as a test for this deficiency state, the fundamental fact that lack of this vitamin will impair the adaptation of the eyes to vision in dim light after light exposure is well established. The clinician, as a result of nutritional research, will hence-

1. Lehman and Rappaport: J. A. M. A. 114, 386 (1940).

forth be alert to detect symptoms of vitamin A deficiency, and he may with confidence interpret their meaning and apply the effective remedy. Vitamin A researches have revealed one of the common causes of impairment of function of epithelia, and have pointed out the restorative agent.

Vitamin D—Upon the discovery of vitamin D in 1922 its importance to the clinician was immediately recognized. Hitherto the etiology of rickets was unknown, and its high incidence in the temperate zone, and its absence in the far north and in the tropics was puzzling. Now the nature, cause and prevention of rickets is fully understood, although much remains to be learned of the manner in which the vitamin accomplishes regulation of phosphate and calcium concentration in the blood, and of the process of calcification of the osseous tissues. The almost universal attention to the provision of vitamin D in infant feeding, and its administration to children during the colder months, has already protected millions against this debilitating disease. The therapeutic application of vitamin D has effected one of the great achievements in preventive medicine. The application of vitamin D in medicine is ably discussed by Eliot and Park.²

Vitamin K—Vitamin K is a recent discovery. It is one of the fat-soluble vitamins and is available as a synthetic product. Since its discovery it has been of the greatest interest to surgeons when dealing with patients suffering from the various types of obstructive jaundice. The operative hazard due to slow clotting time of the blood in these cases is the result of deficiency of prothrombin. Numerous clinicians have reported prompt responses to the administration of vitamin K, the prothrombin increasing rapidly and the clotting time of the blood returning to normal within a few hours. This measure is now being widely employed in the preparation of patients for operation who hitherto have been bad risks.

Burch and Meade³ reported the usefulness of vitamin K in the treatment of hemorrhagic retinitis. Engel⁴ has found vitamin K of great importance in the treatment of

sprue. This disease, owing to impairment of absorption by the alimentary tract, may cause the appearance of symptoms of deficiencies of all the known vitamins. Vitamin K is only absorbed by the intestinal wall when bile is present, hence its depletion in the blood and the development of hemorrhagic tendency in liver and gallbladder disturbances. The following is a partial list of clinical papers dealing with experience with this vitamin in the treatment of hemorrhagic tendency in the new born:

Waddell and others.⁵

Waddell and Guerry.⁶

Quick and Grossman.⁷

Vitamin E—This nutrient was discovered in 1922 by Evans and Bishop. During the succeeding years almost all investigations of its physiologic role were made in connection with sterility in both sexes, mainly in rats and guinea pigs. During recent years a clinical literature has appeared dealing with the usefulness of the vitamin, the chemical name of which is alpha-tocopherol, in preventing habitual abortion in women. Certain experiences reported, which are interpreted as showing that administration of the vitamin in the form of wheat germ oil concentrate to women threatened with abortion is beneficial, appear to warrant some scepticism until further data are available. It would seem that when delivery in early pregnancy is threatened there probably exist anatomic defects which make continuance of pregnancy impossible. On the other hand, reports similar to those reported by Currie⁸ in England should be well considered by all physicians who have the supervision of obstetric cases. Currie reported a series of 23 women who, in aggregate, had experienced 73 pregnancies resulting in the birth of eleven living children, 5 of whom died soon after birth. He administered a concentrate equivalent to 5 grams of wheat germ oil daily to each of these women for an average of 5 months. Twenty-two of these women were delivered of full-term infants, the remaining pregnancy being terminated by abortion. It thus appears that

5. Waddell and others: Proc. Soc. Exper. Biol. & Med. **40**, 432 (1939).

6. Waddell and Guerry: J. Pediat. **15**, 802 (1939).

7. Quick and Grossman: Proc. Soc. Exper. Biol. & Med. **41**, 227 (1939).

8. Currie: Brit. M. J. **2**, 1218 (1937).

2. Eliot and Park: Brennemann's Practice of Pediatrics, Vol. I, Chap. 36.

3. Burch and Meade: Minnesota Med. **22**, 32 (1939).

4. Engel: Med. Welt. **33**, 120 (1939).

deficiency of this normal nutrient may be of great significance in rendering women incapable of completing pregnancy, and that early and continuous administration of this vitamin may be of great value to women who have experienced miscarriages.

Vitamin E has now assumed great interest in connection with muscle dystrophy. Mackenzie and McCollum,⁹ and Goettsch¹⁰ and Evans¹¹ have observed that impending muscle dystrophy in rabbits, rats and guinea pigs, produced by experimental feeding, is cured in a spectacular manner by the administration of either natural or synthetic vitamin E. Through the courtesy of Dr. Park, alpha-tocopherol was administered to a 12-year old boy who suffered from chronic muscle dystrophy. The child was not benefited by the treatment. However, Bicknell¹² has reported marked success in the treatment of human dystrophy with this dietary essential. Further trials of this substance in dystrophy will be awaited with interest.

Thiamin—For many years after it was established that deficiency of thiamin, or vitamin B₁, is the cause of beriberi, a health problem of great gravity in countries where polished rice is the principal staple of the diet, it was generally believed that there is no deficiency of this vitamin in North America. Cowgill¹³ made a critical study of the quantitative intake of this vitamin by people in various parts of the world, and concluded that some degree of deficiency is not uncommon in places where beriberi does not occur. Strauss and McDonald¹⁴ were the first to report extensive studies on the therapeutic value of thiamin in neuritis of pregnancy and of alcoholism. They showed conclusively that these types of neuritis respond well to thiamin therapy. In both conditions it is clear that digestive disturbances and loss of appetite account for failure to secure sufficient of the vitamin.

Recently Aring, Evans and Spies¹⁵ have reported a critical study of the efficacy of

thiamin therapy in neuritis of a great variety of origins. Whereas neuritis due to chemical poisons, trauma and bacterial agencies would not be expected to be associated with thiamin deficiency, and clinical trials show that this therapy is not effective, there are other forms of neuritis which may be expected to respond to its administration. They list pellagra, pernicious anemia, sprue, beriberi, alcoholic neuritis, pernicious vomiting, hunger edema, pregnancy, chronic colitis, cancer with cachexia, tuberculosis with cachexia, diabetes, myxedema and chronic bacillary dysentery as the diseases, the neuritis of which responds to thiamin administration. It is obvious that in these conditions special attention to the diet and, in acute conditions, administration of the pure vitamin is important. Deficiency of thiamin interferes with the utilization of glucose, and may be a factor in delayed response to treatment in the diseases enumerated above.

Riboflavin—We owe most of our knowledge of the pathology of riboflavin deficiency to Sebrell¹⁶ and his associates. The earliest symptoms of riboflavin deficiency are reddened, denuded lesions of the lips, maceration and fissuring in the mouth angles, and seborrheic accumulations at the nasolabial folds. Recently Kruse, Sebrell, Sydenstricker and Cleckly¹⁷ have described in human subjects vascularization of the cornea in this deficiency state. The condition was first described in animals by Bessey and Wolbach.¹⁸ All of the symptoms mentioned above respond readily to treatment with the vitamin. Riboflavin is a yellow pigment widely distributed in foodstuffs, which combines with protein to form a complex which participates in the oxidation reactions in the body.

Nicotinic Acid—For many years pellagra has been one of the great health problems of the United States. Long known in several parts of Europe, it attracted the attention of many able medical investigators, some of whom examined all the evidence available and made important deductions concerning its etiology. To the late Dr. Joseph Goldberger we owe the credit for the most in-

9. Mackenzie and McCollum: *J. Nutrition* **19**, 345 (1940).

10. Goettsch: *J. Nutrition* **17**, 371 (1939).

11. Evans and Burr: *J. Biol. Chem.* **76**, 273 (1928).

12. Bicknell: *Lancet* **1**, 10 (1940).

13. Cowgill: *The Vitamin Requirements of Man* (1934).

14. Strauss and McDonald: *J. A. M. A.* **100**, 1320 (1933).

15. Aring, Evans and Spies: *J. A. M. A.* **113**, 2105 (1939).

16. Sebrell: *Pub. Health Rep.* **44**, 2697 (1929); *ibid.* **53**, 83 (1938); *ibid.* **54**, 2121 (1939).

17. Kruse, Sebrell, Sydenstricker and Cleckly: *Pub. Health Rep.* **55**, 157 (1940).

18. Bessey and Wolbach: *J. Exper. Med.* **69**, 1 (1939).

tensive investigations on the cause of this disease, its experimental production in human subjects and the demonstration of the relative merits of many individual foods as preventives. He made the discovery that a disease in dogs known as black tongue could be produced experimentally by feeding them diets similar to those eaten by human pellagrins. Thus he laid the foundation for the great discovery by Elvehjem¹⁹ that pellagra in the dog is quickly cured by the administration of nicotinic acid. Nicotinic acid had been familiar to organic chemists for 75 years, but its biologic significance was not suspected. Funk had isolated nicotinic acid from rice polishings when attempting in 1910 to isolate the antiberiberi vitamin (thiamin). He did not recognize its importance, since he knew of but one animal test to make with it, viz., the cure of polyneuritic pigeons. It has no value in this condition. Other biochemists during many years, in their efforts to isolate vitamins, secured in their operations crystals of nicotinic acid, but it was in no instance tested in the right way to determine its importance in nutrition. This great experiment was made by Elvehjem while studying the isolation of the antipellagra vitamin. At last the secret came to light. Clinical medicine was provided with another potent curative agent for one of the most serious of diseases.

Fusospirochetal Oral Flora — Smith²⁰ pointed out that the spirochetes and related organisms which grow symbiotically in the oral cavity in great profusion are the causative agents in Vincent's angina, pyorrhea and fusospirochetal disease of the lungs. Miller and Rhoads²¹ pointed out that this is the flora characteristic of the mouths of dogs with black tongue. For years certain conflicting results of Chittenden and Underhill and Goldberger could not be brought into harmony. The Yale investigators described a syndrome in dogs which was highly suggestive of pellagra in men. They stressed the inflamed and pustulous mouths of the dogs as a diagnostic sign. They cured the condition by giving the dogs butter or boiled carrots. Goldberger's black tongue

dogs exhibited similar mouth lesions. However, his dogs responded to yeast administration and not to butter or carrots, whereas Chittenden and Underhill stated that their dogs did not respond to yeast therapy. The confusion remained until David Smith²² and associates repeated the experiments of both the Yale group and of Goldberger, and found that in each instance the oral flora was similar, and that it was a secondary and not a primary result of the deficient experimental diets. In the one instance the dogs were debilitated by vitamin A deficiency, and in the other by nicotinic acid deficiency. In both groups of dogs where health was severely impaired by different deficiencies, the mouth was severely overgrown by the fusospirochetal organisms. This study is of great significance both to the medical and dental professions.

Pyridoxin (Vitamin B₆) — Vitamin B₆ deficiency causes a symptomatology which led to its being designated "rat acrodynia." It has not been known with certainty whether this nutrient is essential for the nutrition of man. The synthetic substance is now available for clinical study. Spies²³ and his associates reported that patients with pellagra, following treatment with nicotinic acid, thiamin and riboflavin, continued while taking the deficient diet to complain of nervousness, insomnia, irritability, abdominal pain, weakness and difficulty in walking. These symptoms disappeared when vitamin B₆ was administered. Lepkovsky²⁴ and associates observed in dogs which were fed a diet supplying all known nutrients except vitamin B₆ the development of severe hypochromic microcytic anemia. They found that purified B₆ administration induced a cure. Boison and Mettier²⁵ have repeated this work and have induced cures by the administration of the synthetic product. It is evident that further study of conditions in man which respond to this nutrient will yield most interesting results.

Ascorbic Acid — A deficiency of ascorbic acid causes weakening of the capillary walls and a hemorrhagic tendency. Ascorbic acid

19. Elvehjem and associates: *J. Biol. Chem.* **123**, 137 (1938).

20. Smith: *Oral Spirochetes and Related Organisms in Fusospirochetal Disease*, 1932.

21. Miller and Rhoads: *J. Exper. Med.* **61**, 173 (1935).

22. Smith and associates: *J. Nutrition* **14**, 373 (1937).

23. Spies and associates: *J. A. M. A.* **112**, 2414 (1939).

24. Fouts, Lepkovsky, Helmer and Jukes: *Proc. Soc. Exper. Biol. & Med.* **35**, 245 (1936).

25. Boison and Mettier: *Proc. Soc. Exper. Biol. & Med.* **43**, 429 (1940).

participates in certain oxidation reactions in the tissues. Time will permit of mention of but three facts of interest to clinicians. King and Menten²⁶ fed guinea pigs abundant, protective and sub-protective amounts of ascorbic acid, and gave them subcutaneous injections of diphtheria toxin in various doses below the minimum lethal amount. Animals partially depleted of their ascorbic acid reserves but showing no signs of scurvy survived about half as long as animals with normal reserves receiving the same dosage of toxin. One-half the minimum lethal dose of the toxin killed depleted animals but this dosage was tolerated with little injury by animals whose ascorbic acid reserves were high. This points to the value of ascorbic acid in the destruction of toxin. The results suggest the advisability of keeping the ascorbic acid reserves in the tissues high as a protection against bacterial poisons arising from several kinds of infection, since King and Menten observed that guinea pigs responded in the same manner to several kinds of dead cultures of pathogenic bacteria as they did to diphtheria toxin.

Several clinicians^{27, 28} and others have reported that anemic patients did not respond to iron therapy until they were also given foods rich in ascorbic acid. This seems to show that ascorbic acid is in some manner associated with iron assimilation or with hemoglobin formation.

It is well known that patients with fever use ascorbic acid much faster than does the individual whose temperature is normal. Active tuberculosis causes a marked rise in the requirement for this nutrient. Whereas the normal person excretes most of the ascorbic acid administered in excess of 50 mg., patients with active tuberculosis require two to four times this amount to cause them to excrete any by way of the kidneys. All fever patients should be given liberal amounts of fruit juice or a solution of ascorbic acid.

In this discussion a selection of examples has been presented which show what clinical medicine has gained as by-products of nutritional research. These show in a most convincing way the wisdom of the great

interest which medical men are now manifesting in the application of the newer findings of nutrition and biochemistry. It is clear that a new field of therapy has been revealed and partially explored and that further achievements may be confidently expected.

STATUS ASTHMATICUS

SPECIFIC CHEMOTHERAPY IN TREATMENT

PRELIMINARY REPORT

By

CLARENCE K. WEIL, M. D.

And

HENRY J. CLIMO, M. D.

St. Margaret's Hospital
Montgomery, Ala.

Despite recent advances in the treatment of status asthmaticus, this condition remains a serious complication to be dreaded by the allergic patient and a therapeutic difficulty to be feared by the physician. Hospitalization with the removal of inhalant allergens, restriction of foods to those to which the individual is not sensitive, adrenalin by subcutaneous and intravenous routes, aminophyllin intravenously, sedatives given by mouth or by rectum and oxygen or oxygen-helium mixtures by inhalation afford considerable relief in many cases, but despite all of these measures certain cases of status asthmaticus continue to remain in acute distress for many days or even weeks. We have recently treated a small group of cases of status asthmaticus with sulfanilamide and sulfapyridine and, though the series is small, the results seem to justify the publication of this preliminary report.

A direct relationship between status asthmaticus and respiratory infection has been recognized for years.¹ The bacteria found in the sputum are generally streptococci, pneumococci and staphylococci² which are usually abundant in direct smears. If a sensitization to the products of these bacteria is responsible for status asthmaticus, then destruction of these bacteria should terminate the attack. In sulfanilamide and its derivatives we have drugs almost specific for these

26. King and Menten: *J. Nutrition* **10**, 129 ('35).

27. Mettier and associates: *J. A. M. A.* **95**, 1089 (1930).

28. Dunlop and Scarborough: *Edinburgh Med. J.* **42**, 476 (1935).

1. Kern, Richard: *Medical Clinics of North America*, Nov. 1939, page 1615.

2. Cecil, Russell L.: *Textbook of Medicine*. Fourth edition, page 518.

organisms: sulfanilamide for streptococci, sulfapyridine for pneumococci and sulfathiazol for staphylococci. It was this theory which prompted the employment of sulfanilamide and sulfapyridine in the treatment of status asthmaticus.

The following case reports summarize briefly our experience with seven cases of status asthmaticus presumably of bacterial origin treated with specific chemotherapy.

Case 1. A man of 46 years had had asthma for thirteen years, the first attack following "an attack of pleurisy." He had had many attacks of status asthmaticus which increased in frequency and severity as time went on. Early in the disease he had responded to rest, elimination of offending antigens and adrenalin by hypodermic, but with increasing attacks it was found that after a few days adrenalin lost its effect and aminophyllin had to be substituted. Between attacks he obtained moderate relief from the intrabronchial instillation of iodized oil. His sputum was profuse and viscid. Dyspnea became continuous between attacks and when aminophyllin repeated three times within a period of four hours had failed to relieve him, we felt we were encountering a desperate condition. Hospitalized in a room free from inhalants to which he was sensitive, on a diet limited to foods to which he showed no reaction either by skin testing or by clinical trial, given sedatives throughout the day and night and aminophyllin at intervals of four to six hours, he had failed to respond to treatment at the end of six days. At this time his temperature was 99.4, pulse 96, respiration 25. Examination of his lungs showed not only loud wheezes throughout and prolonged expiration with extremely shallow and difficult breathing, but there were also moist rales at both bases. Cyanosis was present. There was a persistent cough and profuse production of sputum which was thick and greenish-yellow in color and showed on smear pus cells, with many streptococci and with a few pneumococci. The white blood cell count was 15,400 with 85 per cent polymorphonuclears and 15 per cent lymphocytes. The dosage of sulfanilamide was 20 grains every six hours for two days, 15 grains every six hours for three days and then ten grains every six hours for seven days.

Twenty-four hours after the institution of sulfanilamide therapy, the temperature was subnormal, pulse 80 and respiration 20. The moist rales had disappeared. Respiration was easier and deeper and he was able to lie flat in bed. For the first time since the onset of the status asthmaticus he was able to eat his meals without acute dyspnea. On the second day he required only one dose of aminophyllin and on the third day one dose of adrenalin. On this day he was dismissed from the hospital and the white blood cell count was 15,800 with polymorphonuclears 73 per cent, lymphocytes 13 per cent, monocytes 2 per cent and eosinophiles 12 per cent.

Case 2. A boy of fifteen had had asthma for a period of three years and severe asthma for three weeks. He was given adrenalin in large doses three to eight times a day. Contact allergens were removed and two elimination diets were tried and finally the diet was restricted to milk alone. A week after admission to the hospital he was given aminophyllin $3\frac{3}{4}$ grains intravenously every six hours without relief and the dose was raised to $7\frac{1}{2}$ grains. On February 1st, he was started on 15 grains of sulfanilamide every six hours and by evening his wheeze was considerably improved. He required no medication during the night. On the following day his lungs were entirely clear. He was dismissed from the hospital the next evening, thirty-six hours after beginning treatment.

Before sulfanilamide was instituted the temperature was 100.8, pulse 110 and respiration 38. The white blood cell count showed 18,000 with polymorphonuclears 65 per cent, lymphocytes 28 per cent and eosinophiles 7 per cent. The sputum showed streptococci, staphylococci and pneumococci on smear and culture, but the streptococci were apparently predominant. On the second day after sulfanilamide the temperature was 98, pulse 90, respiration 20 and the white blood cell count showed 8,300 with polymorphonuclears 56 per cent, lymphocytes 26 per cent, monocytes 7 per cent, basophiles 1 per cent and eosinophiles 10 per cent.

Case 3. A man of 51 years had had asthma for a period of five years. At the onset of his illness he was troubled with a productive cough beginning in the fall, followed by a wheeze in the winter. The wheezing soon lasted throughout the year following always an exertion. He was seen in severe asthma

and was given aminophyllin which relieved the attack but caused nausea, restlessness, insomnia and mental disturbances of such severe grade as to warrant its discontinuance. On January 29, 1940 he developed intense asthma which was not relieved by adrenalin. During this attack he was able to take aminophyllin without untoward effect but without relief and on February 1st he was given 20 grains of sulfanilamide every six hours. On the following day he was free of dyspnea and on the second day was symptom free and able to be flat on his back. On the third day he complained that he "breathed so deeply that it hurt" and on the sixth day he could take moderate exercise without dyspnea or wheeze.

The temperature before institution of sulfanilamide therapy was 101. The white blood cell count was 12,750 with polymorphonuclears 73 per cent, lymphocytes 17 per cent, monocytes 2 per cent and eosinophiles 2 per cent. The sedimentation rate was 26 millimeters. On the fifth day after beginning treatment his temperature, pulse and respiration were normal. The sedimentation rate was 24 millimeters, white blood cell count 7,700 with polymorphonuclears 71 per cent, lymphocytes 27 per cent and eosinophiles 2 per cent. The sedimentation rate two weeks after beginning treatment had dropped to 16 millimeters.

Case 4. A 20 year old man had had asthma since nine months of age. In a previous attack of status asthmaticus he had been hospitalized for a period of three weeks. On January 29th, 1940 he developed status asthmaticus with a temperature of 103.2 and pulse of 108. The infection precipitating this fever was an upper respiratory one. He had had eight doses of adrenalin in one night without relief, and aminophyllin was given with no better results. He was given 20 grains of sulfanilamide every six hours and the same routine as in Case 3 was followed. On the day after the institution of treatment the patient was able to lie flat in bed and breathe in comfort. On the second day his mother's chief concern was that she was unable to hear him breathe, so accustomed had she become to his continuous loud breathing which had been present since nine months of age.

On the day of institution of treatment the temperature was 100.8, pulse 108 and respiration 30. The white blood cell count was

21,100 with polymorphonuclears 85 per cent, lymphocytes 11 per cent, monocytes 3 per cent and eosinophiles 1 per cent. On the day following the beginning of treatment, the temperature was 97.4, pulse 80 and respiration 18. Two days after beginning sulfanilamide the white blood cell count was 8,600 with polymorphonuclears 61 per cent, lymphocytes 24 per cent, monocytes 5 per cent and eosinophiles 10 per cent. Subsequent counts remained about the same. The smears of the sputum showed organisms resembling streptococci, *Micrococci catarhalis* and a gram-negative intracellular bacillus. The sedimentation rate which was first performed on the second day after treatment was 26 millimeters. It dropped to 14 millimeters by the end of the week.

Case 5. A colored man of 59, the only Negro in this series, had had asthma since childhood. His attack of severe asthma had begun eleven days before our first visit. He was given a dose of adrenalin and put at once on sulfanilamide treatment in doses of 20 grains every six hours. Two days later, being unimproved, he was sent to the hospital, where the white blood cell count was 22,500 with polymorphonuclears 89 per cent and lymphocytes 11 per cent. The sedimentation rate was 28 millimeters. The sputum showed a preponderance of pneumococci with a few streptococci and staphylococci. The temperature was 99.2, pulse 108 and respiration 44. He was given 15 grains of sulfapyridine every four hours. The following day he was breathing better but still had many rales at both bases posteriorly. His respiratory rate had dropped to 24. On the third day after starting sulfapyridine, there was no wheeze and the drug was discontinued on the fourth day. On the fifth day after starting sulfapyridine, his white blood cell count was 10,000 with polymorphonuclears 85 per cent and lymphocytes 15 per cent. In subsequent counts this patient eventually developed 4 per cent eosinophiles and 4 per cent basophiles. This was the first case in which sulfanilamide failed to relieve. When it was found that the sputum contained a preponderance of pneumococci it seemed logical to switch to sulfapyridine which promptly cleared up the patient's infection and status asthmaticus.

Case 6. A child 3 years old had begun to have asthma three months prior to admission to the hospital. In a period of one

month he had had three severe attacks. The first two were relieved by ephedrine sulphate but the last attack had not responded to ephedrine, propadrine or adrenalin and he was brought to the hospital for relief. His physician stated that all his attacks had occurred in damp, cold weather and were preceded by tonsillitis with fever. Upon admission to the hospital, his temperature was 101.2, pulse 130, respiration 42 to 48. He was given, within a period of nine hours after admission to the hospital, seven doses of adrenalin totalling 3.3 cc. and 3 grains of seconal by rectum without relief. His white blood cell count was 16,300 with polymorphonuclears 82 per cent, lymphocytes 14 per cent and monocytes 4 per cent. The sputum showed a preponderance of streptococci. He was given 5 grains of sulfanilamide, then 2½ grains every four hours. Within thirty hours after beginning treatment, his temperature was 99.2, pulse 120, respiration 32 and he was free of audible wheezing though a very slight wheeze could be heard on auscultation. By the second day he was free of asthma. The white blood cell count had dropped to 8,600 with polymorphonuclears 62 per cent, lymphocytes 36 per cent and monocytes 2 per cent. He was dismissed from the hospital three days after institution of treatment.

Case 7. A man of 62 had had dyspnea for seven years. When seen in the office two years prior to his attack of status asthmaticus, he was found to be suffering from cardiac asthma and was relieved by rest in bed and digitalization. The heart was considerably enlarged. The chest was barrel-shaped and immobile. The lungs showed extensive fibrosis and emphysema. With certain restrictions he lead an active life in business until November 27, 1939 when he developed a respiratory infection and began to wheeze again. From that date until February 7, 1940 he had marked orthopnea, dyspnea and wheeze on exertion and was a semi-invalid. His symptoms did not respond to digitalization or rest in bed and he was not relieved by adrenalin. He was sent to the hospital February 8, 1940 with a temperature of 97, pulse 100 and respiration 25. The white blood cell count was 11,400 with polymorphonuclears 78 per cent, lymphocytes 18 per cent and monocytes 4 per cent. No eosinophiles were present. The sedimentation rate was 25 millimeters. The sputum

showed almost pure pus with no eosinophiles and there was a preponderance of staphylococci with some pneumococci. He was purposely given no other medication for relief except 20 grains of sulfanilamide every six hours. Within twelve hours there was no wheeze and no dyspnea. He was able to sleep flat in bed that night. He was dismissed from the hospital within forty-eight hours.

INTERPRETATION

These seven cases of status asthmaticus were treated with sulfanilamide and six responded promptly with rapid relief of symptoms. In the case in which relief was not obtained, the sputum showed a preponderance of pneumococci and sulfapyridine resulted in prompt relief. One of the patients with chronic bronchitis and emphysema had sputum containing a large number of staphylococci but nevertheless responded to sulfanilamide. In this type of case sulfa-thiazol might be expected to give better results but we have not yet tried this drug.

We wish it distinctly understood that we are not suggesting that sulfanilamide and its derivatives will relieve all cases of status asthmaticus or that they will actually cure asthma. We are now studying some of the patients in subsequent attacks of severe asthma and hope to be able to evaluate this method of treatment when more cases have been studied. Many questions have arisen during this preliminary study which will have to be answered at a later date. We do not want to give the impression that all cases in which we have tried this drug have been uniformly successful, and regret that at the present time we are unable to give either an estimate of the percentage of successes or the exact indication for this type of therapy. Despite all of this, we have certain impressions which we feel should be of value to others who may be interested in investigating this problem.

IMPRESSIONS

1. There may be cases of status asthmaticus which result from an overwhelming contact with some extrinsic substance of antigenic quality. In these we have no idea what sulfanilamide might do. In cases of status asthmaticus which result from respiratory infection, sulfanilamide and sulfapyridine seem to offer the possibility of

dramatic relief. These cases are characterized by a history of asthma following upper respiratory infection or bronchitis. There is fever, rapid sedimentation rate, leucocytosis with a preponderance of polymorphonuclear leucocytes and, as a rule, a low eosinophile count. The sputum is purulent and the smear shows a preponderance of polymorphonuclear leucocytes with few if any eosinophiles. Bacteria are sufficiently abundant to be seen in large numbers in direct smear and in our experience consist chiefly of streptococci, pneumococci and staphylococci.

2. We do not yet feel certain about the optimum dose of sulfanilamide and its derivatives. We have used as a routine dose in adults the following schedule: 20 grains every six hours for two days, 15 grains every six hours for three days and 10 grains every six hours for seven days. There is still a question as to how long treatment should be continued. Should one rely upon the white blood cell count, which seems to drop rapidly, being accompanied by a decrease in polymorphonuclears and an increase in eosinophiles—the latter being apparently more marked in those cases with both intrinsic and extrinsic asthma? Or should one rely more on the sedimentation rate which seems to return to normal more slowly? Or should one rely on the character of the sputum which becomes thinner, clearer and more mucoid, with a decrease in the cell content, a marked decrease in the percentage of polymorphonuclears and with an increase in lymphocytes and eosinophiles, the latter being more marked in cases with extrinsic asthma?

3. Will this method work as well in patients with chronic bacterial asthma, or so-called bronchitis with asthma, even in the absence of status asthmaticus? Certainly the principles underlying both conditions are similar and should respond to similar therapy.

4. Will other sulfanilamide derivatives prove more satisfactory and perhaps less toxic, as for example sulfathiazol, which affects particularly the staphylococci and may destroy also the streptococci and pneumococci?

5. What about the further treatment of these patients? It is our impression that even when desensitization has failed on previous trials, it may succeed after the bron-

chial infection has been cleared up. Is it not possible that vaccine therapy might be of value in preventing future attacks?

CONCLUSIONS

Without attempting to evaluate the results of sulfanilamide and sulfapyridine in the treatment of asthma, we feel that we are offering a new method of treatment of status asthmaticus which may afford relief to some patients with less prolonged hospitalization and less expensive medication than has been possible in the past. When the indications for the use of these drugs, the proper dosage and the duration of treatment have been well established, the outlook of the asthmatic patient may be considerably improved and the late complications of asthma—chronic bronchitis, bronchiectasis, emphysema, pulmonary fibrosis, cardiac hypertrophy and myocardial damage—prevented.

THE HEALTH WORKER*

HOW THE LAYMAN LOOKS UPON HIM

By

E. V. CALDWELL, M. D.†
Huntsville, Ala.

This is an important question both to the worker and the public since in its answer lies the effectiveness of any phase of public health work; in its answer lies the cooperation or non-cooperation of the public; and in it lies the problem of a happy worker or an unhappy one.

This question might be asked in another way, to wit: Has the public been sold on public health?

The public is divided into three sections: (1) those who understand the good of public health and accept it, welcoming and cooperating with the worker; (2) those who understand it but for commercial reasons oppose it and resent the health worker, however fine and sincere he may be; and (3) those who are uninformed about public health and think it an unnecessary interference in their affairs. So the answer to the question, how the layman looks upon the health worker, would vary in various

*Address delivered at a conference of the county health departments of North Alabama, Huntsville, February 6, 1940.

†Chairman, State Committee of Public Health.

localities. The difference would be directly dependent upon the degree of public health education that had been accomplished in each locality. Further, the amount of this education would depend upon the length of time the work and education had been under way, the enthusiasm, earnestness, and teaching gifts of the health worker, and the co-operation of the medical profession of the community.

So the answer to the question is not wholly the responsibility of health workers as a class. Each should be willing to accept his share of the stigma, if there be any, for each would be partly to blame. But the broad and final answer to this question is the responsibility of the entire public health organization, national, state and local.

Education in all the fine arts of living is the duty of national, state and local governments. There can be no fine art of living without public health. Great as the power of wealth is, it cannot buy happiness unless there is public health.

Christianity, character, public health and wealth, in the order mentioned, are the four foundation stones of the art of fine living. Without them nations will decay.

If the public opinion of the health worker is not what it should be, it is because the education of the public has not reached a point sufficient for it to appreciate public health. Herein lies the golden opportunity for the health worker to raise himself in the estimation of the public. His attitude toward his work, his approach to the public to execute the work, his ability to teach and his excellence in leadership, plus a well planned and directed program from the central office, will determine his standing and importance in the public mind.

Who are these health workers of whom we speak? I dare say, when this subject was assigned me, those who arranged this program had in mind the local group as gathered here tonight. But I wish to bring into the picture a far greater conception of the health worker. Since public health is one of the four cornerstones of national, state and local progress, the health worker should be any and all those whose field of endeavor lies within any one of these spheres. Our Congressmen and Senators in the national legislative body are often times and should always be health workers, seeking constantly to improve the public health

through legislation, thus enabling national agents, such as the U. S. Public Health Service, the Army and Navy, and through grants-in-aid to states to educate the people and control disease.

Our state legislators should come under the head of health workers. They should enact such legislation as would enable the state public health agencies to promote public health education and control disease.

Then the State Health Officer and central office personnel are health workers and should and do outline a state-wide program. Upon the wisdom and breadth of conception of this program depend to a great extent the reputation of the field health workers as represented here tonight. If the state program is wisely conceived, the county health departments can sell it to the communities with greater credit to themselves and greater benefit to the public.

While the medical profession at large, in organized groups of national, state and local societies, in a general sense promotes public health and disease control, it does not do all it can to further public health and uphold the esteem of the public health workers in local communities.

County boards of commissioners and city aldermen should also be health workers. They should take an interest in and support whatever health work is indicated for their respective counties and municipalities.

But, after all, it is the county health departments that have to execute the general program and it is they who have to build the regard of which we speak. You are on the firing line and, if the state program is well conceived and planned, the favor in which you are held is determined by your approach to the problem of its execution.

Inasmuch as it is you who make all the individual contacts and first impressions and, finally, the lasting impressions constituting the esteem in which you and whom you represent are held by laymen, your selection constitutes a very important problem to the central office.

Considering there are sixty-seven full-time county health departments in the State, each having from three to ten health workers of more or less importance, and one county with over a hundred employees and two with twelve or more, the whole making nearly five hundred health workers, it can be understood readily that the selection of

the field force of health workers ranks equally, as a major problem to the central office, with the conception and promulgation of state-wide plans for public health.

Your primary education, your special education, your training for this work, while vastly important and expensive, must be matched with a personality and a gift for teaching and leadership, either born in you or developed by you, before you can give to health work that which it takes to create and hold the public favor which we are trying to discuss tonight.

In promulgating a state-wide plan, the central office is bound to make some mistakes which will impose on you tasks not conducive to your popularity, but it is equally true that, in selecting such a vast force of health workers, there will be mistakes in selection that will not bear fruits of esteem for the central office. So the thing is a two-edged sword. Mistakes in the central office will reduce the regard bestowed upon you by your execution of the state-wide plan, and your mental attitude toward and physical approach to the task of executing the general program, if bad, will affect the esteem of the public for the central office which conceives and directs the work.

The state-wide program, your breadth of understanding and acceptance of it, your education and training in this work, your belief in yourself as one who is building for future generations, your enthusiasm in the work, and your ability as a teacher and leader among the people will determine the degree of esteem in which you and those you represent are held.

There are two kinds of criticism: one is constructive and friendly; the other unfriendly, malicious and destructive. If you hear unfriendly criticism of health workers, you can rightly assume that some one or many have fallen down in their direction or approach to the work, or both.

No one can assume that you have an easy job. No one who strives can avoid error. But his strides of progress are far greater than his errors, and thus there is constant progress. This is the thought that gives moving force to any upward movement. This upward pressure is what divides the public into the three classes mentioned earlier in this discussion; namely, (1) those who are now converts to public health and accept it and cooperate with its workers; (2) those

who know that public health is good and important but who for selfish reasons oppose and criticise it and its workers; and (3) those who have not yet been sufficiently contacted and instructed.

For the benefit of those here tonight who may feel that the task confronting you in this division of the public is discouraging, I wish to call your attention to the fact that however formidable the task may now seem to complete the conversion of the public to public health, it once was far more formidable.

In times past there was no public health. No one had conceived it nor was there any effort to establish it. There was no division of the public into three classes. All were ignorant of it. The entire public had to be converted.

What vision came to some few of our ancestors? What strength of character impelled them to take up the task of leading Alabama out of the jungle of health ignorance? How long has it taken to create that first division of the public who are now converts to and cooperators in public health? Who first put his shoulder to the task? When I think of the man who caught the vision and who had the strength of character to sacrifice a good practice for the meager remuneration then available for such work, I stand in awe. I wonder, had I lived in that day, could I have had the vision? Even then, would I have had the courage to give up a lucrative practice to make an attack on the ignorance of the day. What must have been the resistance, criticisms and ignominy faced by those brave souls then? What did laymen think of those health workers? History records the answer.

Seventy-five years ago a physician in Mobile, Dr. Jerome Cochran, harassed by the sight of Alabama lying stunned in the grasp of yellow fever, by the knowledge that farming would soon be stultified by malaria, that typhoid fever was rife in Alabama, that before long bubonic plague would have a foothold in Alabama and America, conceived that Alabama should have a State Department of Health, supported by the State to study the source, cause, and prevention of these diseases. He quit his practice to talk and promote his vision and finally got a legislative appropriation of \$3,000.00 a year for this work. What could he do with this small sum against all the lack of belief

and interest of that time? He was not discouraged by what laymen thought of health workers. For twenty-five years he labored with small means until at his death Alabama had what is today accepted as the best health system of any state in the Union.

Then Dr. W. H. Sanders succeeded him in this work and with a larger appropriation at his disposal built up a better and a wider health system over a period of twenty years. Then Dr. S. W. Welch followed him and with a greater political personality succeeded in getting an appropriation far exceeding that available to his predecessors, and with this money carried on the general program of the office in existence at that time and began the organization of county health departments. At his death this work was largely completed. Dr. J. N. Baker succeeded to the position of state health leadership, and under his administration he has completed state-wide organization and has made noteworthy progress in tuberculosis education and care.

It has taken seventy-five years to come to where we are tonight. It has taken seventy-five years to divide the public into three divisions as mentioned above.

What does the layman think of the public health worker? The eradication of yellow fever, the control of malaria, the control of typhoid fever, the reduction of diphtheria to a minimum and the robbing it of its sting of death; the control of smallpox, the proper handling of meat, vegetables and fruits; sanitary hotels and restaurants and public conveyances, disease-free water supplies, the proper disposal of sewage; the removal of defects from school children, state insane asylums, schools for defective children and the blind, maternal welfare and crippled childrens' clinics, chest clinics, sixty-seven full-time health departments, with trained workers, tuberculosis sanatoria—all these are the thundering answer to the question, What does the layman think of the health worker?

History will record the names of the leaders and posterity will read and revere them. You individual workers may not have your names in history but on the scroll of eternity your names will appear as the ones who put into execution the great public health program that pushed back the curtain of ignorance and helped lead your generation to light and health and happiness.

COMMUNITY HEALTH* AS INTERPRETED BY A PRIVATE PRACTITIONER

By

W. W. ALEXANDER, A. B., M. D., F. A. C. P.†
Florence, Ala.

By a community is meant the smallest unit that will hold itself together, and in which individuals live in groups, either organized or unorganized, through which they express their needs, desires, purposes and interests as a social unit. Such a social unit embraces more than the geographical limits of a town or a city. It reaches out and includes those elements which react upon the business and social life of the group and influence its character.

A study of local conditions will indicate avenues which are suitable for expressional activities fulfilling the greatest need for a given community, such as juvenile welfare, health service, and civic welfare. Both the home and the school should feel their responsibility to educate the child for the community instead of away from it and this can be accomplished best by giving serious thought to our immediate community problems and attempting to handle them in a workable way.

Good health means absence from disease, or a condition of body and mind in which all the functions are normally performed. In this discussion we are especially concerned with the varieties of activity which contribute to programs about health. In thinking of the health of a community one immediately is confronted with the question, "What resources in the community contribute to and conserve our health?" Topics for study may be listed as follows:

(1) The private practitioners of medicine in the community, represented by the local or county medical society;

(2) Public agencies as the county health department;

(3) Local legislation;

(4) The water supply; and

(5) Other local service agencies for health aid and recreational opportunities, as:

(a) Civic organizations,

(b) The Y. M. C. A.,

(c) The Red Cross, and

(d) The Boy Scouts.

The Lauderdale County Medical Society consists of the organized private practition-

*Read before the Gilbert School Parent-Teacher Association, Florence, February 13, 1940.

†Member, Medical Staff, Florence Clinic.

ers of medicine in the county, whose Board of Censors elects the health officer and supervises in a large measure the health activities of the local health department. Different communities should avail themselves of the opportunity of having members of the medical society lecture to them on the progress of medicine in recent years and on the types of medical care available to school children and certain of the indigent in their respective localities.

Few of us realize the every day importance in our lives of the Lauderdale County Health Department, one of the best of the sixty-seven such departments in the state of Alabama, which State, incidentally, ranks high in public health work in the nation. Headed by an experienced health officer, assisted by a capable, trained staff, the department is doing a splendid job in protecting and improving the public health by health education and disease control work, all of which is carried out in cooperation with and under the assistance and immediate direction and control of the members of the Lauderdale County Medical Society acting through its Board of Censors.

We should be interested in the promotion of public health, because human beings are the most valuable of all material resources. To better acquaint oneself with this work and particularly with the work of the Lauderdale County Health Department, which is fostered jointly by the federal, state, county and city governments, it would be well to visit this department from time to time and thereby become more familiar with the various phases of its work and with what is being accomplished for the public good.

Lauderdale County with more than 40,000 people, mostly white, but with a goodly percentage of Negroes, is representative of the more than 3,000 counties in the United States in which effective public health work is now being done on a widespread basis.

The activities of the health department include health education, the control and prevention of communicable and infectious diseases, general sanitation, protection of milk, protection of food, laboratory examinations, service to cripple children, infant and preschool hygiene, tuberculosis control, malaria control, social disease control, immunization against typhoid fever, diphtheria, and smallpox, vital statistics, the control of pests, as rodents, the control of flies and

their breeding places, the use of antiseptics, and many other services that affect every resident of Lauderdale County.

A good indication of the value of our health department to the people of Lauderdale County throughout their lives is demonstrated by the fact that it records their birth and death to begin and end the life span. It determines the major causes of death and seeks to battle hardest, in cooperation with the local doctors, nurses, public authorities, civic and educational leaders, against those diseases which are exacting the greatest toll.

The health department provides a functioning, centralized bureau through which the local doctors work to wipe out epidemics of all kinds, once they occur, although the first objective is to prevent these outbreaks, in which effort notable successes have been achieved in recent years.

This cooperation between private physicians, who are familiar with health conditions in homes throughout the county, and the health officer also makes it possible for the two groups, working together, to bring medical assistance to many families who otherwise might not receive the care they require for good health. An example of this is the splendid work that has been done in improving the condition of physically handicapped children, victims of infantile paralysis and the like. The importance of these joint efforts cannot be overemphasized.

It provides care and guidance for mothers and infants, examination and protection of our children while they are in school, and generally protects the public through inoculations and vaccinations against various preventable diseases. General sanitation measures carried out in recent years are of untold worth, as are the protection of food and milk supplies, in which food-handling establishments, as cafes, dairies and the like, are required to maintain certain standards for the public good.

Today, modern medical science has advanced to the point that most of our ills can be controlled and wiped out. Much good in the past has been evidenced by the ever-lengthening average span of life. Much of this improvement, which is constantly continuing, can be traced directly to the work of the private and public protectors of health, and indirectly to the health education program which goes on day in and day

out by means of the spoken word between doctor and patient, between teacher and pupil, between parents and their children, newspaper and magazine articles, lectures and radio talks, and through the distribution of pamphlets and other material relating to health.

Local or social legislation affecting health includes quarantine laws, inspection of buildings, housing and plumbing, inspection of institutions serving the public, such as dairies, restaurants and ice cream parlors; protection of food stuffs, standards for satisfactory disposal of garbage and sewage, protection against medical fraud, such as quacks and "patent medicines," and cleanliness of city streets.

Suggested ways of studying such legislation would include securing and reading copies of local health laws and charts showing city and county death rates from certain diseases before and after quarantine laws were in effect; a visit to a local dairy, or a grocery store and meat market; in schools a chart of things individual pupils have done to help keep the community clean or a visit of the individual or school groups to various institutions and discussing facilities for health and sanitation.

How the city maintains and purifies its water supply is a question that suggests a number of interesting activities, especially for school children. "What is the difference between temporarily and permanently hard and soft water?" Why is it necessary for some water to be purified before it can be consumed by the public? How is this accomplished? How is the water we use stored for the city?

The activities of other local service agencies for health and recreation, a study of the city's safety regulations, the effect of the location and environment on the health of the people, means of continuously informing citizens about new discoveries and practices in the improvement of health, and things children can do in spreading new information and in raising the standards of community health are phases of this problem which time will not permit discussion.

Activities concerned more particularly with our national health, which may have an increasingly important influence on our community welfare, should include a discussion of group medicine in which arguments for and against the plan are consid-

ered, and a consideration of the cost of disease to the country as a whole as well as to our own community.

A panel discussion of group medicine, charts showing Red Cross and child welfare activities and a little play on the value of the Food and Drugs Act are appropriate program activities for this study.

In general, the number and variety of program activities useful in the development of a community health curriculum are limited only by the initiative, resourcefulness and cooperation shown by its individual constituents. Their educational value is in direct proportion to the extent to which the children are active and creative participants, not only in presenting the program but also in deciding what type to give, what activities to include and how to develop them, who will be responsible for different parts and tasks, where to secure material and whom to invite.

Adults likewise should be willing to work together to help overcome the scourges of disease. They should have a broad understanding of community health problems and be able to impress the need for their practical solution upon the growing minds of their children at an early age. Teachers should be trained in the technique of studying community problems, and especially those relating to the health of a community, in order that ways and means of improvement may be worked out. To discuss such questions from time to time keeps their importance before the public and new converts in the crusade for good health will be gained.

Bladder Tumors—For tumors in the base of the bladder, and particularly around the ureteral orifices, owing to the close proximity of the seminal vesicles and rectum, a radically curative operation is much more difficult and dangerous. For such cases complete suprapubic resection of the tumor mass and implantation of radium needles in and well around the base is apparently the most satisfactory procedure. We have some remarkable cases in which highly malignant, invasive vesical tumors involving a considerable area of the trigone have been satisfactorily treated in this way. One of these patients, in whom the tumor was almost as big as a lemon, is still well after sixteen years. Others have been followed shorter periods.

Where the tumor is close to, or involves the prostate, we have successfully employed a perineal operation.—Young, *Texas State J. Med.*, April '40.

THE JOURNAL

of the

Medical Association of the State of Alabama

Editor-in-Chief

FRED W. WILKERSON.....Montgomery

Associate Editors

M. Y. DABNEY.....Birmingham
W. D. PARTLOW.....Tuscaloosa
J. N. BAKER.....Montgomery
DOUGLAS L. CANNON.....Montgomery

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

Office of Publication

519 Dexter Avenue.....Montgomery, Ala.

Subscription Price.....\$3.00 Per Year

May 1940

THE BIRMINGHAM MEETING

With an opening day registration of 529, later to swell to such proportions as to tax the capacity of the Peacock Ballroom of the Tutwiler Hotel, convention headquarters, the 1940 session of the Association was an outstanding one in every particular. Prominent physicians from afar contributed to an interesting program, said by many to have been one of the best in a long number of years; and members of the Association from the Tennessee River to the Gulf through their papers added much to the worthwhile-ness of the occasion.

Election of officers on the morning of the last day resulted in the selection of Dr. Samuel A. Gordon of Marion to serve as President in 1940-1941; the renaming of Dr. Merle Smith to the vice-presidency of the Northwestern Division; the reelection of Dr. E. V. Caldwell to the Board of Censors, and the return of Dr. M. S. Davie to the Board after an absence of a year while serving as President of the Association. Dr. Douglas L. Cannon was chosen to fill the combined offices of Secretary-Treasurer.

Counsellors named for further terms were Dr. J. D. Perdue, Mobile; Dr. F. L. Abernethy, Foley; Dr. John A. Martin, Montgomery; Dr. L. D. Parker, Andalusia; Dr. W. A. Lewis, Enterprise; Dr. W. D. Wood, Camp Hill; Dr. T. J. Anderson, Greensboro; Dr. W. A. Gresham, Russellville; Dr. R. H.

Redden, Sulligent, and Dr. G. F. Walsh, Fairfield.

Counsellors-Elect were named as follows: Dr. W. Hill McCaslan, Union Springs; Dr. E. L. Gibson, Enterprise; Dr. J. F. Sewell, Wetumpka; Dr. G. G. Woodruff, Anniston; Dr. C. D. Killian, Ft. Payne; Dr. A. L. Isbell, Albertville; Dr. J. P. Smith, Eutaw; Dr. J. P. Collier, Tuscaloosa, and Dr. A. C. Jackson, Jasper.

The election of Dr. Gordon brings to the presidency a Counsellor of twenty-seven years' standing and a member of the Association for nearly a half century. On his graduation from the Medical College of Alabama in 1895, he was granted certificate of qualification to practice medicine in Alabama the same year by the Lowndes County Board of Medical Examiners, and from that time has continued to serve actively in his chosen profession. His other chief interests are the history of his native State and a four-year medical school for Alabama.

Dr. Gordon succeeds Dr. M. S. Davie of Dothan who served the Association ably as its chief officer, and who, with the Jefferson County Medical Society, host to the 1940 meeting, deserves highest commendation for a most interesting meeting. Younger members of the Society serving as committeemen brought to those in attendance instructive scientific and commercial exhibits in numbers that excited greatest admiration on the part of all.

On invitation extended by Dr. W. H. Minor, acting for his Society, the Association chose Mobile as its place of meeting in 1941.

ON CARING FOR THE AGED

"The physician who numbers among his patients some of the very old may count himself fortunate. Those who have weathered the buffetings and vicissitudes of nature have acquired with their years a sagacity of which the physician may well stand in awe. The medical management of disease in individuals beyond the sixth or seventh decade of life, however, presents so many unique problems that, as formerly with the practice of medicine in children, it is gradually becoming recognized as a specialized field. In geriatrics, as in pediatrics, one deals with individuals with low levels of tolerance. . . Categorically speaking, the elderly patient presents a set of such inflex-

ible structures and processes that the stress and strain of either disease or therapy may result in catastrophe."

Thus do Brown and Dolkart¹ begin their excellent consideration of this subject in the opening article of a symposium on geriatrics. The authors warn us that the elderly are more inflexible and less pliable than are others and that "foremost should be the resolution to approach the patient, not as a problem, but as a real individual." We are further told that "so important is the emotional outlook of the aged that many therapeutic procedures must be modified. Although unthought of for the same disease in a younger patient, it frequently is wise to keep an elderly patient sitting up in a chair instead of in bed. In this connection one must consider not only the imminent dangers of hypostatic pneumonia subsequent to being confined to bed, but the profound mental depression the aged undergo when they become aware that disease has at last conquered them and that they must take to their bed."

Every experienced practitioner will agree with Brown and Dolkart when they observe that "regardless of the particular medical problem at hand, the most frequent source of difficulty is the onset of psychotic behavior, in the presence of which medical care, which is difficult at best, becomes almost impossible. One of the commonest causes of psychosis is the direct result of attempts at therapy: *the indiscriminate use of sedatives.*" The authors believe that "a minimum of sedation of any type is therefore preferable for the aged patient. If a hypnotic is required, it should be prescribed with an awareness of its possible untoward effects. The same limitations which apply to the bromides and barbiturates hold for almost all sedatives, including paraldehyde, chloral, hyoscine, hydrobromide and the narcotics.

"Whiskey is a good sedative for the aged patient which is not often considered in the armamentarium of the younger physician.

"In addition to toxic psychoses due to sedatives are those resulting from other medication, the most common of which is *digitalis*. The authors have observed numerous instances in which psychotic behavior was the first indication of overdosage."

In discussing the gastro-intestinal disturb-

ances the authors stress the "inadequate diets the average aged patient takes. Vegetables are disliked because of chewing difficulties; dentures, or being edentulous, may have originally been the cause for the elimination of this article of diet. Substitution of pureed vegetables and the addition of vegetable mucilage in many instances is all that is required to reestablish normal bowel habits. Because of chewing difficulties many other foods are avoided. . . . As little change in the patient's ordinary dietary habits as is compatible with successful therapy is to be desired. There is no point in the elimination of specific articles of diet such as meat or coffee. Nutritional edema due to low protein intake following prolonged restriction of meat is not too uncommon."

The authors do not approve of drastic dental surgery because "we have observed many severe systemic reactions following multiple extractions in older individuals. Conservative treatment of dental infection with removal of one tooth at a time if absolutely necessary is the safest procedure to follow."

And the Chicago investigators very wisely admonish us to use extreme care in the treatment of syphilis in elderly patients. They advocate small doses of iodides or mercury rubs with careful urinalyses and they believe that active intense therapy is apt to cause more harm than no treatment at all.

"Lastly, we wish to add a word of caution to the ambitious clinician who believes in the thorough laboratory work-up of each and every patient. The grueling and fatiguing grind of three-day gastro-intestinal tract roentgenologic studies should be considered before nonchalantly rushing grandma or grandpa down to be purged, barium'd, enema'd, prodded and scared by the enthusiasm and equipment of the roentgenologist."

Brown and Dolkart have indeed done well and their approach to the problems of geriatrics is sensible and well thought out. Many physicians, especially those but recently graduated, are prone to overtreat the elderly and to disrupt the routine of their lives preemptorily. It is to be hoped that practitioners who must deal with the aged will adhere to the conclusion of Brown and Dolkart: "It is fundamental, however, to recognize that geriatrics is a subject which the physician must approach with patience, humility and understanding, keeping his more scientific instincts in the background to be used as aids if possible."

1. Brown, Clarence F. G., and Dolkart, Ralph E.: General Remarks on the Care of the Aged, *Med. Clin. of N. America*, 24: 3 (Jan.) '40.

TRANSACTIONS OF THE ASSOCIATION

1940 SESSION

TRANSACTIONS OF THE SEVENTY-THIRD
CONSECUTIVE ANNUAL SESSION OF THE
MEDICAL ASSOCIATION OF THE STATE
OF ALABAMA, HELD AT BIRMINGHAM,
APRIL 16-18, 1940

First Day, Tuesday, April 16

The Medical Association of the State of Alabama convened in the Peacock Ballroom of the Tutwiler Hotel, Birmingham, and was called to order at 10:00 A. M. by the President, Dr. M. S. Davie of Dothan.

Invocation was offered by the Reverend John C. Turner, Rector of the Church of the Advent, Birmingham.

Addresses of welcome were delivered by the Honorable Cooper Green, Chairman of the Birmingham City Commission; and Dr. John W. Simpson, President of the Jefferson County Medical Society, host to the Association.

The Senior Vice-President, Dr. Merle Smith, presented President Davie who delivered the following message:

The President's Message

The presidency of The Medical Association of the State of Alabama is an honor to be borne with great pride. To me it is an accolade—a token of my father's ambition for me. He was a horse and buggy doctor who died before his time, hoping with but a modicum of foundation that I might carry on with credit.

Personally, the year now closing has been a year of peculiar thrills. I wish that all of my good friends might enjoy the honor and pleasure of serving as your president for the allotted time of one year.

My first impression was the vastness of the field, followed by the feeling of inadequate training for the problems at hand.

The first thrill was the dawning consciousness of a cooperative army standing at attention. Practically at no time did I call in vain for help, and never was I given a stone when I asked for bread.

High in the counsels of this aggregation stands a personality of extraordinary efficiency. Never intruding, he is always there. Nothing escapes him, and he knows the answers. I do not have to give his name, but I want it officially recorded in this message with the gratitude and affection of the President. If you have found anything good in this administration, please remember to credit Dr. Douglas L. Cannon, Secretary of the Association.

Proceeding along the grooves of professional habit, we first sought acquaintance with the sit-

uation. We attended the first meeting of each division and a number of others. We learned of local problems and the attention they were receiving. Through personal correspondence we learned how many meetings each county had in a year, and the average attendance; how many papers were read at a meeting, and other details.

Still pursuing the clinical figure, we uncovered case histories and developed interesting diagnoses—not omitting neuroses, psychoses and other delightful doldrums which beset county societies.

On the whole the organic body was found to be in good thrift. No malignancies were discovered. The heart was usually found in the right place, no organic murmurs, and but few intermittences. Some hypotension; no hypertension. Appetite uniformly good; digestion seldom complained of. No jaundice. Some astigmatism; a little myopia; hearing excellent.

I fear the examination has been more earnest than thorough. The time has been short, some of the symptoms confusing, and interruptions have abounded. However, certain interpretations have been reached and some comment will be made. We do not expect our directions to be carried out, but we have been richly compensated for our services.

Ingenuity and zeal should be given to the stimulation of the individual physician's interest in his county medical society. The suggestion is that a routine skeletal program be adopted and carried out; that one or more case reports be made and discussed; that a picture be had when possible and that the picture be discussed.

Carefully patterned and widely disseminated efforts should be made to inform the public. This public should be made our friend and advocate at the bar of opinion. This would simplify things and prevent impending blunders.

Our distinguished State Health Officer, Dr. J. N. Baker, who is both sanitarian and statesman, carried some of us with him before a legislative committee that was giving consideration to a chiropractic bill. The fact of consideration to this bill was an indictment. The people should have been saved from any such ignorance.

The attorney for the cult made a speech under the Bill of Rights, an irrelevant premise, his contention being that this cult had the constitutional right to offer its services to the public, and the public had the right to receive services from this cult. He indulged in a maze of language and dwelt at length upon professional prejudice and jealousy. The committee failed to sense what it was all about, but the emotional appeal was effective. Dr. Baker ably presented the fact that the medical profession was not interested in the system practiced, but the minimum qualifications for any type of treatment of disease. Nothing doing. So the proletariat must retain the option of having its vertebrae titillated while an explosion takes place at McBurney.

Education is the primary solution. For some time education has been in reverse and there are things to be unlearned, but the correct things can be taught until existent fallacies and prejudices find their way to Cleveland's land of innocuous desuetude.

Let there be a paid stenographer at county society meetings and let his report of the proceedings be entered in the secretary's book without deletion, from which a censored release shall go to county or community newspaper and printed as paid space if it cannot be entered as news. Let the same system be used with every medical meeting held in the State.

The American Medical Association is the largest medical association in the world, and also a mammoth business concern. It has had the good fortune for some time of being assailed by friend and foe, which has saved it from becoming static and is carrying it forward.

It is our organization. Its achievements, faults, resources, problems, responsibilities and enemies are ours. Its fight is ours, but we cannot fight without knowledge. Its integrated intricacies are a marvel of executive accomplishment, but they will not work automatically. They require understanding from you and me, and they are entitled to constructive criticism.

Copy the platform of the American Medical Association into your note book. It can be done in three minutes. It can be read in one minute. It has eight (8) planks and contains 206 words. The longest plank is the second and has 38 words. The shortest is the eighth and it has 14. It will repay continuous study.

After mastering the armamentarium of our arsenal, we are ready to attack our problems. They must be studied and understood. They are befogged by propaganda and ulteriorism. These are sometimes synonymous terms. Sift these problems. Take them to pieces and see what makes them tick.

There is a contention at this time that the health of the people, preventive and curative, is the burden of the commonwealth; that John Doe is entitled to but cannot buy modern medicine; that his inability to make this purchase is destructive to him and the rebound is victimizing us.

Modern medicine in time, talent and equipment is an expensive proposition. It cannot be furnished at a loss, and, in totality, it is not being overcompensated. It is alleged that in some places its distribution is unorganized and inefficient.

None of the answers is attempted here, but they are going to be made by some one. We should make them. We have them in our own thinking and resources. No one else has.

It is well to bear in mind that the basic equities are the ultimate determinants. A house builded upon any other foundation is insecure. But how are they translated here? John Doe should be able to buy modern medicine. Many physicians are receiving returns inadequate for the comfort of themselves and families.

But socialized medicine is not the answer. Until man is reconstituted as a biologic biped this will not work. And that will not be in our

day. Socialized medicine would wreck the millennium. We have socialized medicine in the preventive field, and it works. Curative medicine is a different thing.

Some think prepayment insurance furnished by strong companies is one part of the answer. Small local or state companies might not survive an epidemic. Others think the organized group is the other part. No one knows at this time.

Prepayment hospital insurance looks good to the hospital. These patients are not in a hurry to get out. You can think it over. It has a headache for the sociologist and the economist.

The organized group is the medicine of tomorrow, as it is the proven medicine of today.

What are you going to do with the family physician, the patient-physician relationship, fee-for-service system, et cetera? I do not know. Much of this should be saved from discard.

Nowhere should there be any compulsion or bureaucracy. Nor should any of the medicine side of these things be turned over to or taken by others than physicians. The commercially organized group, where a corporation of business buys a building, equips a clinic, employs a salaried staff, hires and fires at will, and all hands chase the dollar, is a setup that is waiting around the corner, but it is not good for scientific medicine.

The president of the Association has the honor, responsibility, privilege and duty of the annual program. There is invaluable compensation in this, but he should be able to devote more of his time to an attendance upon the meetings in the State during his administration and to the study of conditions in the State. He could be of more value to the Association if the finding, choosing and arranging the talent for the essays, discussions, lectures, addresses and the like were the responsibility of a committee, whose final decision in these matters shall be his prerogative.

Your President recommends that a program committee be added to the committees of this Association, whose duties shall be as indicated in the preceding paragraph and that final decision shall be subject to his approval. Also, that the Secretary of this Association shall be an ex-officio member of this committee.

The Association has endorsed a four-year medical school for the state of Alabama. Such matters require concrete action. Some officially delegated attention should be given to this situation. Experience has shown the successful procedure in this line of endeavor. Recommendation is made that a committee be appointed to seek this achievement and that the same be known as The Medical School Committee.

It is a temptation to imitate Tennyson's Brook, but in this era brevity is The Thing. I know, too, that "the time is out of joint," but I am not so sure that "ever I was born to set it right."

You are asked to remember that this address is both an effort in restraint and a task in pragmatism. There were many things I would have chosen to speak about; there are others I considered more practical. I have selected the latter.

A sumptuary law is not of itself effective, and the breaking of any law is bad for all law. In a democracy a law is made effective through education, understanding and approval. While education is a distributed burden, its inception belongs to pertinent fields.

The barbiturate law is not being kept and its observance is primarily our responsibility. We should abandon the indiscriminate use of these preparations and write NR on these prescriptions.

The Pharisees taught us the absurdity of too many laws, but the narcotic law is effective and the barbiturates might be successfully tied in here without duplicative machinery. Some effort should be made to confine the use of these drugs to selected and suitable cases, or we will have to build more asylums for our people.

General alcoholism is a major problem, and has social standing it has not had in this country before. Law will not control it, though such an effort should continue. Intemperate language stimulates its use. This is a law of psychology. The record is enough. Let the scientific facts become common knowledge. Let the authenticated facts of its use be stated without adjectives. Use the teaching principles of an ancient worthy: "Line upon line, and precept upon precept; here a little, and there a little." Keep it up. Sow and water; the increase will be provided.

Most medical libraries have much of Osler. Mine is no exception, including Christian's revision of his textbook and many of his literary addresses. I, like others, have carried in my pocket his Sabbath evening address to Yale students in 1913, entitled "A Way of Life," just as he carried in his pocket Sir Thomas Browne's *Religio Medici*, a copy of which was placed upon his coffin when he was buried.

My literal quotation from Osler is from his matchless Valedictory Address, University of Pennsylvania, May 1, 1889, in which he postulates that imperturbability and equanimity are the highest attributes which one may possess or acquire for our profession. "Deal gently then with this deliciously credulous old human nature in which we work, and restrain your indignation, when you find your pet parson has triturations of the 1000th potentiality in his waistcoat pocket, or you discover accidentally a case of Warner's Safe Cure in the bed room of your best patient. It must needs be that offenses of this kind come; expect them, and do not be vexed."

We have a physician who preceded Drs. Osler and Browne by many centuries who is authoritatively said to have written the most beautiful book in the world. It, also, is a little book, and can be carried in the vest pocket. It, too, like Osler's might be entitled, "A Way of Life." In fact it treats of life both here and beyond the vale. I commend it to you. It was written by Dr. Luke, who was the personal physician of the scholarly intellectualist who graduated at the University of Tarsus.

The President's Message was referred to the Board of Censors.

REPORTS OF OFFICERS AND COMMITTEES

The reports of officers and committees were received and each referred in its turn, without discussion, to the Board of Censors.

These reports follow:

Report of Vice-President Smith Northwestern Division

This report completes, to all practical purposes, the task of serving the Association for the past four years. While the work has been arduous, it has never become too tiresome or too exacting. There is a certain joy in visiting the medical societies that form the Northwestern Division, of talking with the members and being invited to join in their discussions. It was with regret that, many times, it was impossible to stay as long as I wished and accept the many courtesies that were tendered; however, they were nonetheless appreciated. Your Vice-President is well pleased with the progressive and cooperative spirit that has been manifest at all times and for the work well done, but looks forward to greater accomplishments from this Division as the years go by.

During the year, meetings were held at Cullman, Tuscumbia and Parrish with an average attendance of sixty. Thirteen scientific papers were read and discussed.

Personal visits were made to all the medical societies in the Division on their regular meeting dates. Unfortunately, Tuscaloosa County had postponed its meeting so that contacts were made only with some of the members. All counties with the exception of four are meeting on a monthly basis. Franklin County claims the best attendance record with practically 100 per cent for twelve meetings. Your Vice-President was also able to attend the first meeting held by Dr. J. Paul Jones and to enjoy the hospitality and friendliness of the Southwestern Division and the Wilcox County Medical Society.

In making these visits there appeared to be a great deal of dissatisfaction with and even distrust of the present FSA medical plan. This seemed to be due to the small amount of funds available, the large volume of work required by the client, and, finally, by a few doctors being unreasonable in their charges or prescribing. The trend has become so great that now the societies are being forced to curtail the benefits, prescribe the fee schedules and even limit the types of illness cared for to the acute sickness. As our experience grows we can no doubt put these plans on a firmer and more pleasant basis. Until then they should be approached with caution.

There also seems to be a tendency on the part of many County Health Officers to obtrude too far in the field of the private physician. It is only natural for a doctor to do all the good that he can, but these men should refrain from stepping over that indistinct line that marks the boundary between public health and private practice. In some measure this is due to a laxity on the part of the physicians in the county. They have the idea of "let George do it," or that the patient can't pay anything. We must guard with care

the prerogatives and privileges that belong to us, and, even though the fee is small or even non-existent, we should neither allow nor expect the Health Officer to usurp the rights that are ours alone.

It is becoming increasingly apparent that as the years go by we shall have increased pressure from the various groups of charlatans for recognition as practitioners of the healing arts. Your Vice-President would like to suggest that the association study the basic science laws of the various states in anticipation of such legislation in the future.

I wish again to thank the Association for the honors that it has conferred upon me and especially the members of the Northwestern Division for their unstinted and tireless support for the past four years.

Report of Vice-President Jones Southwestern Division

All of the counties in the Division hold monthly meetings; some for business and some for social pleasures. Due to causes beyond my control I have been unable to visit many of the societies in my territory. This I hope to remedy during the coming year.

Two very interesting meetings of the Division have been held in the last twelve months—one in Camden and the other in Atmore. Each was well attended and the speakers were well received.

As most of the counties in our district are rural, and due to the fact that the Wilcox County Medical Society has been working with the Farm Security Administration in caring for its clients under contractual agreements in keeping with the ordinances of the Association, I have spent a good deal of time working up and presenting the Wilcox plan and its results to these counties, as well as types of contracts and recommendations for new contracts. Unfortunately, due to the enormous drain on Farm Security funds and to the past year's crop failures, we were not able to increase or broaden the medical benefits. We have found the Farm Security Administration very cooperative in so far as it was able.

Report of Vice-President Stewart Northeastern Division

In submitting my annual report I wish to thank the doctors in the Division for their loyal support and cooperation.

Two meetings were held during the year—the first at Sylacauga on June 22, 1939 with the Talladega County Medical Society acting as host; and the second at Gadsden on January 25, 1940.

The Sylacauga meeting was attended by the President and Secretary of the Association and fifty-one other physicians. Contributions were made to the program by President Davie, Dr. J. O. Finney, Gadsden; Dr. Frank Wilson, Birmingham; Dr. J. S. McLester, Birmingham; Dr. J. T. Banks, Dadeville; Dr. Chalmers Moore, Birmingham, and Dr. Sumner Davis, Talladega.

The meeting in Gadsden, with the Etowah

County Medical Society serving as host, was a joint one with the Alabama Sectional, Southeastern Surgical Congress at the Holy Name of Jesus Hospital. A change from the conventional reading of papers to an all clinical meeting proved interesting; and, despite a fourteen-inch snow and zero weather, the session was one of the best I have attended. I attributed this to three factors: first, all the clinicians were outstanding in their respective fields; second, the Committee on Arrangements had carefully selected a wide variety of patients and the case histories were well worked up and presented; and, third, full cooperation was extended by the Hospital. Sixty-one were in attendance upon the meeting.

Clinics were held as follows: Abdominal Surgery—Dr. R. L. Sanders, Memphis; Gynecology—Dr. Gilbert Douglas, Birmingham; Internal Medicine—Dr. J. S. McLester, Birmingham; Proctology—Dr. Cecil Gaston, Birmingham; and Chest Surgery (with colored motion picture on pneumonectomy)—Dr. Frank K. Boland, Atlanta. During the lunch hour a paper was read by Dr. B. T. Beasley of Atlanta on the Southeastern Surgical Congress.

A survey this year showed that thirteen of the seventeen county medical societies in the Division hold regular monthly meetings. The other counties, due to small memberships, etc., meet from one to three or four times a year to transact business. About ninety-two per cent of the white physicians in the Division belong to county medical societies, and sixty-four per cent attend meetings.

In closing, I desire to urge upon all our physicians regular attendance upon the meetings of their county medical societies. Such a practice makes of each member a more efficient physician, and through his interest and work in the local medical society he becomes a more valuable member of the Association and of organized medicine.

Report of Vice-President Tillman Southeastern Division

This first report filed by me will be a brief one, but sufficiently long to record that in the seventeen counties comprising the Division there are 380 physicians, 316 of whom are members of their respective county medical societies. The membership in Chilton and Coffee Counties is 100 per cent.

One meeting with an excellent program was held in the district during the year—at Eufaula on August 22, 1939 with the Barbour County Medical Society acting as host. Contributors to the program included Dr. Fred Wilkerson, Montgomery; Dr. J. R. Garber, Birmingham; Dr. W. H. Y. Smith, Montgomery; Dr. Chalmers Moore, Birmingham; and Dr. J. C. Patterson, Cuthbert, Ga.

The occasion was somewhat outstanding in that we had with us on that day the Presidents of two Associations: Dr. Patterson of Georgia and our own. Dr. Davie made an interesting and encouraging talk.

The Division has received an invitation from the Coffee County Medical Society to meet with it on June 11, 1940 and the program is now in preparation for that meeting.

In reply to a questionnaire sent to the secretary of each society in this Division, the following information was received from the fifteen of the seventeen counties answering the communication: Twelve counties meet monthly; one quarterly; Bullock meets twice each month; and one society every other month. Twelve societies have papers and sometimes pictures at each meeting. Covington reported having six lectures by the Tulane Extension Service. Eleven societies have occasional social functions.

Most of the societies report a fine spirit and interest. This leads me to believe that on the whole satisfactory work has been done during the past year by the societies comprising the Southeastern Division.

Report of the Secretary and

Acting Treasurer

Douglas L. Cannon

MEMBERSHIP OF THE ASSOCIATION

The membership of the Association, as enrolled April 1, 1940, is 1594—an increase of thirty-six (36) in the number listed in my last annual report to you; and sixty-three (63) more than on April 1, 1938. In my report of a year ago attention was directed to the steady increase in membership over the five-year period 1935-1939 from 1449 to 1558. This year's enrollment represents an increase of 145 over the year 1935; and is, in all probability, a fortunate circumstance since this is the year in which there is to be a reapportionment of delegates to the American Medical Association.

While Alabama can hardly hope for increased representation, it ought to continue to have two members in the House of Delegates of the national body. Certain it is that few states can claim as large a percentage of all physicians practicing therein who are identified with organized medicine.

Percentage of physicians holding membership in Alabama's county medical societies is now 87.9, as opposed to 86.6 per cent on April 1, 1939, Negro practitioners numbering seventy-nine (79) having been deducted. Thirteen counties (Bullock, Butler, Chilton, Coffee, Coosa, DeKalb, Lawrence, Marengo, Perry, Pike, Shelby, Tallapoosa and Winston) have a membership of one hundred (100) per cent. The total number of physicians in Alabama is 1892.

DEATHS

Though there were slightly fewer deaths recorded during the year than a year ago, those lost included some of the Association's oldest and most revered members. Thus, from the Book of the Living to the Book of the Dead have been transferred the names of Life Counsellors C. C. Jones and J. U. Ray; Active Counsellors S. H. Newman and M. J. Williams; and members C. L. C. Atkeson, E. C. Bandy, J. S. Beard, W. M.

Bogart, S. S. Boykin, D. R. Brown, W. J. Callaway, W. G. Casey, M. S. Causey, E. L. Curlee, J. J. DuBose, L. F. Duckett, G. A. Hammond, D. B. Harris, J. P. Hawkins, C. B. Jackson, A. J. Jones, W. J. Love, A. R. Lozano, R. S. Manley, P. S. Mertins, Sr., M. J. Pruet, A. M. Reid, J. W. Roberts, B. W. Roden, W. S. Sanders, J. W. Thomason, D. C. Walker, G. D. Waller and L. T. Young.

Nothing your Secretary might say could add to the record of these deceased members, particularly those who for so long a time occupied a conspicuous place in the Association. If from the number but two are selected, it must be sufficient to say that Dr. Jones was a counsellor for fifty-eight (58) years and Dr. Ray, treasurer for nearly a quarter of a century.

STATUS OF COUNSELLORS-ELECT

At the last meeting of the Association, eleven (11) members—Frank H. Boyd, William T. Cocke, Lewis C. Davis, Charles E. Ford, R. Lee Hill, N. W. Killingsworth, Carney G. Laslie, J. Orville Morgan, John D. Sherrill, Marcus Skinner and Hinton W. Waters—were elected counsellors. All have qualified fully as required by the constitution and should be added to the Roll of Active Counsellors on Thursday morning.

DELEGATES OF THE ASSOCIATION

Credentials, duly executed by the President and Secretary, have been furnished the Association's delegates to the American Medical Association, convening in New York, June 10-14. The desire of the national body that terms of delegates be staggered prompted President Davie to name Dr. J. N. Baker for a two-year term, expiring with the 1941 session of the American Medical Association; and Dr. A. A. Walker for one year, his term to expire with the New York meeting. It will be a prerogative of the next president to name a successor to Dr. Walker, the term to be two years and expiring with the 1942 session of the American Medical Association. Each succeeding president will then name a delegate to serve two years.

COMMITTEE APPOINTMENTS

President Davie named, to succeed themselves, on the committees of the Association, W. S. Littlejohn (Mental Hygiene), H. M. Simpson (Prevention of Cancer), Lucien Brown (Prevention of Blindness and Deafness), Ralph McBurney (Postgraduate Study) and Marcus Skinner (Fractures and First Aid). P. S. Woodall was appointed a member of the Committee on Maternal and Infant Hygiene, succeeding J. M. Welton.

Committeemen whose terms expire with this meeting are J. G. Bedsole (Mental Hygiene), Hughes Kennedy (Maternal and Infant Welfare), J. C. Chapman (Prevention of Cancer), J. T. Cator (Prevention of Blindness and Deafness), C. K. Weil (Postgraduate Study) and W. S. Rountree (First Aid and Fractures). It will be a responsibility of the next president to name their successors.

OFFICERS TO BE ELECTED

Officers to be chosen at this meeting are a president, a vice-president for the Northwestern Division, a treasurer, two censors for five (5) years to succeed Drs. E. V. Caldwell and S. A. Gordon whose terms have expired; and nineteen (19) counsellors to fill vacancies to be announced at tomorrow morning's session.

FINANCE

On the death of Dr. J. U. Ray, Treasurer, October 5, 1939, the accounts of the Association were audited and found correct in every particular. Copy of this audit covering the period January 1, 1939-October 6, 1939 will be published in the proceedings of this meeting and need not be dealt with now. Reference should be made here, however, to the declining revenues of the Association not reflected in the audit, a condition to be attributed to action by this body two years ago in remitting dues of those who have been continuously identified with the organized medical profession of this state for thirty (30) years. Thus, if we use the first thirty-five (35) annual reports received in 1940 from county medical societies as a basis for determining the effect of the exemption on the revenues of the Association, it is found that 18.3 per cent of the members in this particular group are not contributing to the budget of the Association.

If this percentage prevails throughout the sixty-seven counties, and likely it does since the thirty-five counties referred to constitute a fair sample, then 81.7 per cent of the members, exclusive of counsellors, are financing the usual operations of the Association. The point is made that this reference is not intended as a criticism of the exemption but to serve as a warning that at a not distant time an increase in dues may be found necessary. The figure of \$3.00, prevailing in Alabama for state dues, is the lowest in the United States. Mississippi is next with \$4.00; Kentucky, \$5.00; Louisiana, South Carolina and Tennessee \$6.00; and North Carolina, \$8.00—these nearby Southern States being sufficient for examples of annual dues elsewhere.

CONCLUSION

Finally, it is a source of pleasure to be able to express indebtedness to the President, other officers of the Association and officers of county medical societies for their cooperation in the discharge of the duties of the central office. The year afforded opportunity for visits with the President to district meetings, all of which contacts with him and them were most enjoyable.

The Auditor's Report

The Officers and Members,
The Medical Association of the State of Alabama.
Gentlemen:

We have audited the cash accounts of the Treasurer of The Medical Association of the State of Alabama for the period from January 1, 1939 to and including October 6, 1939.

Our examination included the tracing of all recorded cash receipts from the various official receipt forms, through the cash book, to the record of deposit of funds as indicated by duplicate deposit slips and bank statements on file.

Properly signed voucher checks, with their approved supporting documents, were examined in verification of disbursements through the bank account.

The cash on deposit at October 6, 1939, amounting to \$5,162.74, as detailed at the bottom of Exhibit "A," attached, has been verified and is correct.

On October 9, 1939, in the Safety Deposit Vault of the First National Bank of Montgomery, Alabama, we examined United States Savings Bonds of a maturity value of \$10,000.00, being bonds of Series "C," numbered 459,763 C to 459,782 C, inclusive, each of a maturity value of \$500.00, and maturing in ten years from issue date—October 4, 1938. All bonds are issued in the name of The Medical Association of the State of Alabama.

Respectfully submitted,
Crane, Harper & Williamson,
By H. C. Crane, C. P. A.

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA
SUMMARIZED STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS
FOR THE PERIOD JANUARY 1, 1939 TO OCTOBER 6, 1939

Exhibit "A"

Balance December 31, 1938:

First National Bank, Montgomery, Ala.

Current Checking Account.....	\$ 1,420.84	
Deposits in transit to bank covering		
December 1938 Receipts.....	243.64	
Savings Account No. 27565.....	2,221.96	\$ 3,886.44

First National Bank, Mobile, Ala.

Savings Account No. 108691.....	2,541.82	
---------------------------------	----------	--

Total Cash at December 31, 1938.....	\$ 6,428.26	
--------------------------------------	-------------	--

Cash Receipts:

Association:

Counsellors	\$ 1,000.00	
-------------------	-------------	--

Delegates	544.00		
County Society Dues	3,822.00		
Sims Memorial	155.00		
Interest on Savings Accounts	58.00	\$ 5,539.00	
<hr/>			
Journal:			
Advertising	\$ 2,407.76		
Subscriptions	24.00		
Sale of individual copies .....	.75		
Sale of Roster	1.00	2,433.51	7,972.51
			<hr/>
			\$14,400.77
 Cash Disbursements:			
According to detail hereto attached			
as Exhibit "B":			
Association	\$ 4,555.50		
Journal	4,682.53		9,238.03
			<hr/>
Balance, October 6, 1939		\$ 5,162.74	
<hr/>			
Consisting of:			
First National Bank, Montgomery, Ala.			
Checking Account	\$ 940.96		
Savings Account No. 27565	1,654.55	\$ 2,595.51	
			<hr/>
First National Bank, Mobile, Ala.			
Savings Account No. 108691		2,567.23	
			<hr/>
		\$ 5,162.74	

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA
DETAILED STATEMENT OF CASH DISBURSEMENTS
FOR THE PERIOD FROM JANUARY 1, 1939, TO OCTOBER 6, 1939

Exhibit "B"

Association:			
Salaries:			
Dr. Douglas L. Cannon	\$ 600.00		
Dr. J. U. Ray	300.00	\$ 900.00	
			<hr/>
Printing and Stationery			
Administrative	\$ 106.22		
Committees	46.26	152.48	
			<hr/>
Postage		105.64	
Expense of Division and Committee Meetings		176.52	
Expense of Annual Meeting:			
Badges	\$ 39.14		
Programmes	117.29		
Lecturer	100.00		
Registration Assistant	12.50		
Stenographic (Court Reporter)	33.00	301.93	
			<hr/>
Printing and Mailing Transactions—Annual Meeting		638.47	
Rosters—Printing—sheet form		12.44	
Audit 1938 accounts		50.00	
Expense Delegate to American Medical Association		75.00	
Telegrams		36.96	
Premium on Treasurer's Bond		50.00	
Refund Counsellors Dues—Life Members		20.00	
Contribution to Division of Medical			
Extension, Tulane University		666.66	
James Marion Sims Memorial		1,369.40	
			<hr/>
		\$ 4,555.50	

Journal:

Salaries:

Dr. Douglas L. Cannon—Managing Editor	\$	225.00	
W. W. Wilkerson, Editorial Assistant		225.00	
Wilhelmine Ohme, Clerical Assistant		300.32	
Dr. J. U. Ray, Treasurer		200.00	\$ 950.32

Postage		14.00	
Printing, Addressing and Mailing		3,704.44	
Binding 5 Vol. Journal and 4 Vol. Transactions		13.77	4,682.53

Total Disbursements			\$ 9,238.03
---------------------------	--	--	-------------

Committee of Publication

Fred W. Wilkerson, Chairman

The monthly circulation of the Journal is 1,735 copies, 1,594 of which go to members of the Association, the remainder to non-member subscribers, exchanges, advertisers and advertising agents.

Receipts from advertising in the calendar year 1939 amounted to \$3,900.51, or an average of \$325.04 per month and a slight increase over 1938.

Cost of printing and distributing the Journal totaled \$4,708.73, or a monthly average of \$392.39. This cost, \$67.35 per month more than receipts from advertising, was covered by member and miscellaneous subscriptions.

Sixteen hundred fifty (1,650) copies of the Association's second publication, namely, proceedings of the annual session, including the roster of physicians, was published and distributed to all members at a cost of \$638.47.

Committee on Public Relations

John A. Martin, Chairman

The report of your Committee for this year is taken entirely from the report on economic conditions of the South prepared for the President; the interdepartmental committee health and welfare activities report to the President and the report of the Department of Public Welfare of the State of Alabama.

There is much to be read on the medical aspect of public welfare. The widespread publicity of health needs made us feel the presentation of certain published facts as the report of this Committee to the Association would be most timely.

Quoting from the President's report on economic conditions of the South, our problem is as follows:

"The South presents right now the nation's No. 1 economic problem—the nation's problem—not merely the South's. We have an economic unbalance in the nation as a whole, due to this very condition of the South." The 13 Southern States have a population of 36 million persons, 71% white, 29% colored. The South is richly endowed with physical resources. No other region offers such a diversity of climate and soil. Alabama has 7 major types and almost 300 soil subtypes. In spite of this wealth of population and natural resource, the South is poor in the machinery for converting this wealth to the uses of its people. With 28% of the nation's popula-

tion, it has only 16% of the tangible assets, including factories, machines and the tools with which people make their living. Its potentialities have been neglected and its opportunities unrealized. The paradox of the South is that, while it is blessed by nature with immense wealth, its people as a whole are the poorest in the country. Lacking industries of its own, the South has been forced to trade the richness of its soil, its minerals and its forests, and the labor of its people for goods manufactured elsewhere. If the South received such goods in sufficient quantity to meet its need, it might consider itself adequately paid.

In the South in 1937 the average income was \$314—in the rest of the country it was \$604. Even in prosperous 1929 the Southern farm people received an average gross income of only \$186 a year as compared with \$528 for farmers elsewhere. The richest state in the South ranks lower in per capita income than the poorest state outside the region. The low income belt of the South is a belt of sickness, misery and unnecessary death. Its large proportion of low income citizens are more subject to disease than the people of any similar area. The climate cannot be blamed—the South is as healthful as any section for those who have the necessary care, diet and freedom from occupational disease.

In Alabama an unduplicated total of 27,118 cases received through the county departments of public welfare financial assistance totaling \$280,936.46 for the month of January 1940. Of this total amount of assistance, \$174,154.09 was paid to the aged; \$78,112.79 to families with dependent children; \$5,021.77 to the blind; \$16,248.76 to the handicapped; and \$7,399.05 to cases in need of temporary assistance. The average amount of assistance per case for all assistance groups and for the entire State was \$10.36 which is far lower than the average amount of assistance for the Southern States as a whole. The grand total of benefits received in Alabama, through county departments of public welfare and through various federal agencies including the Department of Public Welfare, public assistance and surplus commodities, WPA, NYA, CCC, FSA and Unemployment Compensation Commission for the month of January 1940, was \$3,472,958.

The medical needs: Seventeen million people live in 1,338 American counties where rich and poor alike suffer from inadequacy in provisions for medical care. The President's summation is that one-third of the nation is ill-nourished, ill-housed, ill-clad and has inadequate medical service or none at all.

A part of the health picture of the nation:

That the gross sickness and mortality rates for the poor in our large cities are as high today as they were for the nation as a whole half a century ago.

That among families on relief canvassed in the National Health Survey, acute illness is 47% more prevalent and chronic illness 82% more prevalent than among families with incomes of \$3,000 or over.

That non-relief families with incomes of less than \$1,000 experience twice the rate of disability through sickness that families in the higher income group experience.

That no physician's care is received in 30% of serious disabling illnesses among relief families and in 28% of such illnesses in families just above the relief level.

That infant mortality is high wherever economic status is low.

That half of the two million babies born each year are born to families either on relief or with less than \$1,000 annual income, and that a great majority of the mothers of such low income families do not receive adequate prenatal care.

That one-half to two-thirds of maternal deaths are preventable and that the death rate of infants in the first month of life can be cut in half.

The plan suggested to cope with these needs is familiar to all of you:

1. Expansion of general public health services.
 - a. In public health organization and in combating specific diseases.
 - b. In maternal and child health services.
2. Expansion of hospital facilities.
3. Medical care of the medically needy.
4. A general program of medical care.
5. Insurance against loss of wages during sickness.

Thus we have mirrored before us the economic conditions of our own section of the country and our own State, the medical needs of the nation and a plan for the relief of same and the expenditure of federal funds in our State during one month.

This committee believes that scientific knowledge and skill are available in this State far beyond the extent to which they are now utilized due to lack of facilities with which to apply this knowledge and skill.

This committee recommends:

1. The adoption of the platform of the AMA and the use of all influence available for the establishment of a national department of health.
2. That each county society determine its own needs and work out a plan whereby all federal, state and local funds may be used to the greatest advantage.
3. That assistance offered through present or proposed federal legislation be used in accordance with specific needs for medical relief as pointed out by county societies.
4. That The Medical Association of the State of Alabama be first in the organization and direction of county units for medical relief as it has been in formation and operation of a State Department of Health.

Committee on Mental Hygiene

Frank A. Kay, Chairman

It is difficult to catalogue the accomplishments of any group, committee or agency whose results come from the slow process of education. The efforts of your Committee on Mental Hygiene have continued during the past year along lines of public enlightenment. While keeping awake to the psychiatric needs of this State, we fully realize that Alabama's facilities for the promotion of mental health continue to lag. Alabama needs more psychiatrists in private practice. When not only the public but the medical profession realizes the extent of this need and appreciates what can be accomplished in regular psychiatric channels, more psychiatrists will be forthcoming. With their arrival will come part-time clinics, at least on a modest basis, and later full-time clinics as a result of community or state support.

For a number of years we have reiterated that there was not one psychiatric clinic in the whole State. This year we can report a small beginning in the form of a modest part-time clinic in Birmingham serviced by a local psychiatrist there.

Alabama needs psychiatric wards or units in its larger tax-supported hospitals of the more populous centers. There are none now. It is to be hoped that the profession of Birmingham especially, and of Mobile and possibly Montgomery, will weigh well this deficit and plan soon to do something about it. A few beds, a few continuous tubs, a few nurses, an interne and a visiting psychiatrist can accomplish much in our general hospitals, take quite a load off our State hospitals and salvage many an incipient psychotic before he becomes much of a community or state liability. Certainly we all see enough disturbed physiology from emotional turmoil in regular hospital and private practice to realize the necessity of providing some psychiatric beds in our larger public general hospitals.

Your Committee reports again an effort to have the Legislature enact a suitable sterilization law and reports also the death of the bill by adjournment after it reached the calendar.

We report a continuation of educational clinics at the State hospitals for colleges and high school students. We have supplied speakers on mental health topics for P.-T. A. groups, conventions for nurses, luncheon clubs, women's clubs and the like.

We arranged through the cooperation of Dean Graves of the Medical School for a lecture on mental hygiene by an outstanding out of state psychiatrist, which was heard by the students of the medical school, and of the departments of psychology and sociology of the University and some citizen enthusiasts.

We have left much undone, but we have utilized our available spare time throughout the year toward keeping our goal in sight.

Committee on Maternal and Infant Welfare

Paul S. Woodall, Committeeman

Your Committee on Maternal and Infant Welfare during the past year has devoted its time and efforts to the proposed objectives of last year's report. Its chief problem has been a criti-

cal analysis of each maternal death, especially concerning method of delivery, adequacy of treatment and an attempt to determine the exact cause of death.

Other work done by your Committee was as follows:

1. Sponsored the picture "Birth of a Baby" in Montgomery and Dothan.

2. Provided speakers on obstetric subjects at approximately 25% of counties reporting their yearly program.

3. Emphasized "hemorrhage" as related to obstetrics at many county and other medical meetings.

4. Suggested, supervised and endorsed the maternal welfare program of the State Board of Health. This work is being directed by our able State Obstetrician, Dr. Eva F. Dodge, and a large part of this work is concerned with organization and conduct of maternity clinics.

During the year 1939, there were 365 maternal deaths from all causes (abortion included). This is the lowest number of deaths in a decade, a record of which we can be justly proud. This means there were 44 fewer deaths than the preceding year of 1938, or a death rate of 55.9 in '39 as compared to 63.2 in '38.

Complete statistics are not yet available for 1939, so the basis for this report will be statistics for 1938.

As in the past, and throughout the U. S. as a whole, infection (puerperal sepsis) continues to lead the parade of killers, accounting for approximately one-third (130) of all deaths. Abortions accounted for its usual generous share of fatalities, 67 (16.4%) deaths being directly attributed to this cause.

Toxemia of pregnancy is the second greatest cause of maternal deaths. It alone accounted for slightly less than one-third (115) of all fatalities. In the past five years, deaths from this cause have shown a slight but definite decline.

Hemorrhage, the next great offender, accounted for 16.4% of all deaths in 1938 (ectopic gestation excluded).

An analysis of the deaths shows residence has little to do with the death rate (number of deaths per 10,000 births) but color definitely does. For example, the colored urban rate (118.5) is more than twice the white urban rate (52.7).

SPECIAL STUDY OF MATERNAL DEATHS (1936-1938)

Beginning with 1936, a simpler form of questionnaire was adopted for special study of maternal deaths. The following material is based on responses to this questionnaire:

Of 628 fatalities reported it was shown that 69.4% of this number received no prenatal care; 77.5% had one visit or less; while 82% made 2 or less visits to a physician or clinic. Only 6% (40) had as many as 9 prenatal visits. This clearly indicates a large majority of potential mothers, who lost their lives, either neglected to seek prenatal care or were unsuccessful in this attempt.

Of 271 replies as to type of delivery, it was shown that operative interference was resorted to in approximately one-half (182) the cases. Of this number forceps were used in about one-third

(65) of the cases; version in 24.2% (44) and cesarean section in 51 cases or 28.0%.

Six hundred fifty-two (652) answers revealed that physicians only attended 389 (61.7%) mothers; midwives only 148 (23.5%); while 61 cases were attended jointly by midwives and doctors.

Eight hundred twelve (812), reported as to place of death, showed 488 occurred at home and 305 at various hospitals.

STILLBIRTHS

In the year 1939 there were 2,614 stillbirths, or a rate of 40 per 1,000 live births. This is the lowest rate in more than a decade. The ratio of colored rate to white (59.5 to 28.3) remains about 2 to 1, showing colored mothers are more than twice as likely to have a stillborn than white mothers.

INFECTIONS

Sepsis continues to be the greatest single cause of deaths to Alabama mothers. Practically as many women died of this cause throughout the U. S. in 1936 as in 1915, showing little progress in 20 years.

Authorities now generally agree that sepsis results from the introduction from without of pyogenic bacteria into the birth canal at the time of confinement. The infection may come from hands, gloves, instruments and numerous other unsterile articles. In general, one would say delivery has been unsterile; to a lay group one would say it has been dirty.

Treatment here is largely a matter of prevention. Aseptic precautions, as one would use in the operating room, a minimum of vaginal examinations and faultless technique are necessities in the prevention of this preventable malady.

TOXEMIAS OF PREGNANCY

Last year toxemias claimed the lives of 115 Alabama mothers. The approach to this problem is largely a matter of early, adequate, prenatal care with an appreciation of the fact that an elevation of blood pressure, with or without edema, and albuminuria means "toxemia." Treatment begun at this time will often terminate happily; started later will mean many catastrophes.

Prompt and vigorous treatment usually means:

1. Absolute bed rest,
2. Adequate fluid intake (sufficient to produce 1,200 to 1,500 cc. of urine in 24 hrs.),
3. Hypertonic glucose solution (I-V) 10-20% is almost indispensable,
4. Judicious sedation—morphia or barbiturates.
5. Proper bowel elimination, and
6. Liquid or soft diet—largely fruit juices.

If there is failure to improve on this regimen in 12 to 48 hours, induction of labor is then mandatory, if patient's general condition will permit rigors of labor in addition to toxic condition.

HEMORRHAGE

This condition continues its ruthless attack on many potential mothers. It can best be attacked by prenatal care and instruction. More frequent use of intravenous fluids and transfusions (even in the home) is recommended.

Your State Health Department is doing a commendable piece of work in extending prenatal clinics over the State. In 1937 there were 16 clinics in 7 counties; in 1938, 43 clinics in 17 counties; and in 1939, 67 clinics in 33 counties. The number of counties having clinics has more than doubled each year since their inception three years ago.

Your Committee feels that extension of these maternity clinics is one of the surest ways of improving the maternal and child welfare problem. The Committee asks each of you to lend your fullest support to this movement.

Your committee wishes to take this opportunity to thank you for your cooperation in the past. It is fully aware that its work is entirely dependent on your individual support and, therefore, earnestly solicits your future cooperation.

RECOMMENDATIONS

1. Organization and maintenance of a Speakers' Bureau to provide speakers for various medical and lay meetings.

2. Each county, district and state medical meeting have at least one obstetric paper on its program each year.

3. Each county appoint a chairman of the County Committee on Maternal Welfare for a 5-year term of office.

4. Each county make a 5-year statistical study of maternal deaths, stillbirths and neonatal deaths.

5. State law requiring that both parties be subjected to blood tests before being granting marriage licenses.

6. All hospitals in the State conform to regulations laid down by the American College of Surgeons concerning the conduct of obstetric and pediatric departments.

7. That in 1940 the subject of "Toxemias of Pregnancy" be discussed at as many medical meetings as possible.

Committee on Prevention of Cancer

J. P. Chapman, Chairman

Cancer as a cause of death is on the increase. This fact cannot be explained alone by the advancing average age of population. A disease that annually destroys 150,000 men and women, at the rate of 400 each day, which is three times the fatalities from automobile accidents, and ranks second in causes of death in the United States, demands attention both as a personal and a public health problem. It is appalling that one out of every eight persons reaching the age of forty years is destined to become a victim of cancer.

In Alabama, one thousand six hundred ninety-nine (1,699) deaths from cancer were reported to the Department of Public Health during 1939. This represents an increase of 107 per cent over the death rate twenty years ago. According to the estimate of the National Institute for Cancer of four cases of cancer for every death from this disease, there are probably 6,796 cases of cancer in Alabama. An important question arises in our minds: How many of these were recognized early enough to receive effective treatment? Also, how many were financially able to have any treat-

ment at all? If statistical studies of large groups of cancer in other states applies to us, probably 40 per cent of the above cases of cancer have received no treatment, and the rest may have delayed too long seeking any kind of treatment.

CANCER A PUBLIC HEALTH PROBLEM

These facts indicate the need of a better coordinated attack on cancer as a public health problem. It is heartening to know that since the Department of Public Health last year made cancer a reportable disease, 902 cases were reported during the last seven months of 1939. This indicates a cooperative response by the physicians of the State that speaks well for their interest in cancer control. Your Committee on Prevention of Cancer urges a still more prompt and complete reporting of all cases of cancer, since this information shall be the basis of an important campaign planned for next year.

The cancer survey undertaken by this Committee last year has borne considerable fruit. It has revealed the physicians particularly interested in this work. It has enabled us to locate and evaluate the facilities for therapeutic management as well as diagnosis of cancer. It will make possible the designation of certain centers and groups as cancer clinics when the necessity for such arises. The facilities for deep therapy and radium application have increased during the past year. Excellent work in the diagnosis and treatment of cancer is being done in several centers. It is the desire of this Committee to procure data on the effectiveness and completeness of cancer therapy from physicians, hospitals and clinics during 1940.

Another evidence of interest in this work was manifested by the various county medical societies appointing cancer committees, and presenting one or more programs on this subject during the past year. This was done through local speakers, or by speakers supplied through this Committee when requested.

CAMPAIGN OF EDUCATION

The Committee on Prevention of Cancer desires to promote a more active educational campaign. Through the various agencies for dissemination of information, it is of supreme importance that the people be taught that cancer if recognized early can be cured. We are anxious for the county medical society to be recognized as a source of information on cancer control, and to take an active part in this campaign.

It is planned to present the high schools with such information as they should know, through literature and talks by local physicians, and thus enlist these boys and girls in the fight against cancer with knowledge.

The organization of a Cured Cancer Club in our State is desired. The only requirement for membership is for patients to secure, through their physicians, their signature to a card stating that "I am willing to be known publicly as a cured cancer patient." Since there are over 30,000 cases of cured cancer in the United States, knowing the names of individuals in our State who have been cured will be a great help in removing the widespread fear of the disease.

WOMEN'S FIELD ARMY

Our greatest ally in the educational campaign against cancer is the Women's Field Army, the state organization of the American Society for Cancer Control. This organization has done remarkable work in most of the states, and is getting under way in Alabama. The campaign of enlistment is through members at \$1.00 per individual, widespread information through literature, talks, etc., and the accumulation of a reserve fund to be used in the relief of cancer victims. This work is to be done through the supervision of the medical profession, and the State Committee on Prevention of Cancer, with the State Commander, acting as the executive committee for the Women's Field Army in Alabama. The local county committee and county captain of the Field Army form the county executive committee. This year, the State Commander of the Women's Field Army is Mrs. Herman Jones, of Auburn, who is diligently carrying out President Roosevelt's Proclamation, designating April as the month of the cancer control campaign. Your Committee would urge each physician and county medical society to cooperate to the fullest, with this organization, and aid in the work of the Women's Field Army.

PERIODIC PHYSICAL EXAMINATION

Early diagnosis is the watchword of cancer control. The key man is the family physician. The Committee urges every physician to encourage his patients, after entering the cancer age period, to have comprehensive physical examinations, covering all the sites where cancer is likely to develop; and instruct the public that should any of the cancer danger signals, painless symptoms which may mean cancer, develop, an immediate consultation with a physician is recommended. These symptoms, which should be posted conspicuously, are any persistent lump or thickening, particularly in the breast; any irregular bleeding or discharge from any body opening; any persistent and unexplained indigestion; any sore than does not heal normally, especially about the tongue, mouth or lip; any sudden change in the form or rate of growth of a mole or wart. A placard with such information would be helpful in the physician's office.

RECOMMENDATIONS

This Committee would recommend that the name of the Committee on the Prevention of Cancer be changed and hereafter be designated as The Committee on Cancer Control. This would be more in keeping with possibility of achievement, and conform to the designation of similar committees in other states.

It is also requested that some provision be made for the expense for an active campaign of education, and for a follow-up program for securing valuable data on all cases of cancer reported to the Department of Public Health.

The need is ever present for arousing State interest in providing means for giving indigent patients access to therapeutic benefits. The excellent work being done in the State of Georgia for the treatment of cancer patients should be an

incentive in Alabama to do as much for our unfortunate cancer victims.

Appreciation is here conveyed to the State Health Officer, Dr. J. N. Baker, and others of the Department of Public Health, for their full and cordial cooperation and assistance in every effort undertaken by this Committee.

Committee on Postgraduate Study

Ralph McBurney, Chairman

Postgraduate medical study in Alabama, organized under the plan presented in your Committee's annual report for 1938-'39, began to function April 3, 1939.

Under this plan, approved by the Association, the organization and functioning of courses of study were started and conducted through the supervision of Dr. Maxwell E. Lapham, Director of the Division of Medical Extension of the Tulane University of Louisiana, until he took over the duties of Dean of the School of Medicine of that institution last September. Dr. H. W. Kostmayer, Professor of Gynecology and Director of Graduate Medical Studies at Tulane, having been appointed to direct the work of medical extension at this institution, will supervise the continuance of the courses in Alabama. We are fortunate to have in Dr. Kostmayer a man highly qualified through ability and experience to continue in the place of Dr. Lapham who has so ably directed this program in the past.

Accomplishments in 1939

During 1939, lectures were given and clinics and consultations were held by Dr. V. P. Sydenstricker, Professor of Medicine, University of Georgia and Dr. J. L. Wilson, Associate Professor of Medicine, Tulane University; giving three lectures each at fifteen lecture centers. Dr. Sydenstricker lectured on nutritional diseases, diabetes and peptic ulcer; Dr. Wilson on cardiac diseases, acute infections and pulmonary diseases. In addition, each gave talks to lay groups.

Below is a summary of accomplishments during 1939:

	Totals
Circuits covered	3
Centers covered	15
Counties included	35
Physicians enrolled	281
Physicians attending once or more ..	371
Clinic patients presented	17
Consultations	56
Lay talks	13
Approximate attendance at lay talks	3,050

Actual Centers Covered

Circuit 1.	{ Tuscaloosa
	{ Demopolis
	{ Selma
	{ Clanton
	{ Birmingham
Circuit 2.	{ Roanoke
	{ Anniston
	{ Talladega
	{ Alexander City
	{ Opelika

Circuit 3.	{	Brewton-Atmore
	{	Andalusia
	{	Monroeville
	{	Grove Hill
	{	Mobile

Plans and Recommendations for 1940

At a meeting of the Committee held March 17, 1940, in the office of Dr. J. N. Baker, all Committee members, Dr. Baker, Dr. Kostmayer and Mr. William Boggs, Field Representative of the Division of Medical Extension, Tulane University of Louisiana were present. Plans were formulated for the conduct of courses during 1940. The same general plan as adopted in 1939 will be followed, work to begin Monday April 22nd.

The remaining lecture centers to be covered, which will complete the work as originally planned, are listed below.

Lecture Center

Circuit 4.	{	Montgomery
	{	Greenville
	{	Troy
	{	Eufaula
	{	Dothan
Circuit 5.	{	Decatur
	{	Huntsville
	{	Scottsboro
	{	Gadsden
	{	Cullman
Circuit 6.	{	Florence
	{	Tuscumbia
	{	Russellville
	{	Jasper
	{	Birmingham (Negro physicians only)

The above will embrace fifteen lecture centers and thirty-three counties in addition to those covered in 1939.

Dr. W. A. Sodeman Replaces Dr. Sydenstricker

Upon recommendation of Dr. Kostmayer, the Committee unanimously agreed to secure the services of Dr. W. A. Sodeman to lecture in Dr. Sydenstricker's stead, who, owing to increasing demands at his own institution, will not be able to continue on our program for 1940. This is a regrettable loss, as Dr. Sydenstricker is an able and experienced lecturer and clinician whose personality and ability gained him many friends throughout the circuits he covered. Dr. Sodeman, however, comes well recommended and is well qualified by training and experience to carry on the work in Dr. Sydenstricker's place in a most gratifying and satisfactory manner.

Dr. Sodeman received his medical degree from the University of Michigan in 1931 and was a Commonwealth Fund Fellow in Cardiology at his Alma Mater in 1938-'39. He is an Instructor in Medicine at Tulane University, School of Medicine, whose staff he joined in 1932.

Lecturers and Their Topics for 1940

Dr. Wilson	{	1. Pulmonary Diseases
	{	2. Acute Infections
	{	3. Diabetes
Dr. Sodeman	{	1. Heart Disease
	{	2. The Anemias
	{	3. Nutritional Diseases

Negro Physicians

While a special and complete series of lectures and clinics are to be offered at Birmingham for Negro physicians in Jefferson County, separate courses for them in other centers are not justified because of small and scattered groups. Realizing the inestimable value of these courses and because of them, the real good that may be accomplished by Negro physicians among their own race, the Committee recommends and urges that host societies in other centers make possible attendance of these physicians at lectures without the customary fee. This has been successfully accomplished in a number of centers during the past year, by having it definitely understood that Negro physicians will have a section in the lecture room allotted to them and that their retirement is expected during the presentation of clinical cases at the termination of the lecture period.

Clinical Demonstrations

Attention is directed to the desirability of using clinical cases in connection with the lectures whenever patients are available. Since the success of this phase of the course depends very largely upon the cooperation of the local physicians, it is hoped that host societies will make special effort to provide several patients having conditions of a nature similar to that to be presented by the lecturer.

Consultations

The instructors will be glad to use available time outside of the formal meetings to see patients with physicians alone or in groups. It is hoped that advantage may be taken of this opportunity when the instructor is in a given lecture center.

Lay Talks

Approximately eighty-six per cent of the centers covered to date took advantage of the services of the instructors for lay group lectures. Your Committee hopes for an improvement in or at least a continuation of this record.

Lectures by Association Members

The Committee takes cognizance of the suggestion, made last year by the State Board of Censors to the Association, that in so far as practicable, we avail ourselves of the services of the many able and experienced specialists within the organization. It is the feeling of the Committee that not a few county medical societies and even our Vice-Presidents have some difficulty in arranging suitable scientific programs. Therefore, acting upon this valuable suggestion, the Com-

mittee recommends and requests that specialists within our group, who are willing to do so, send their name and subjects upon which they may lecture to Dr. Douglas L. Cannon, Secretary of the Association, in order that list of lecturers and their subjects may be prepared and made available to societies and Vice-Presidents within their district.

Associated State Postgraduate Committees

This organization has existed for several years, meeting when and where the annual meeting of American Medical Association is held. Since Alabama has not been officially represented at these meetings, the Committee recommends that the Association officially sanction such representation by any of the members of the Committee who may be present at the annual meeting of the American Medical Association, such members to be recognized as official delegates; it being understood that, for the present, any and all expenses in connection with such representation shall be borne by the delegates.

The Committee extends its thanks to the Association and all concerned for the interest and cooperation manifested in the program of postgraduate instruction during the past year. Because of this interest and cooperation and enthusiasm with which this instruction has been received, it is felt that a most satisfactory beginning in this field of medical progress has been made in Alabama.

Committee on First Aid and Fractures

H. Earle Conwell, Chairman

During the past year we made contact with different county medical societies of the State as well as different lay groups, such as the firemen and policemen in different cities. The question of first aid was gone into thoroughly. The doctors of the local communities were requested to continue the work with the public in their communities concerning the question of giving first aid lectures and demonstrations, especially to the ambulance drivers and policemen.

This work has been rather slow, but we feel that each year we are making more progress and creating more interest, therefore, bringing about possibilities of saving lives and certainly preventing permanent disabilities in many cases.

The Chairman has had referred by the Secretary of this Association information from the Secretary of the State Medical Association of Texas regarding methods being used to present first aid before the public through newspapers in the state of Texas. This publicity is being carried on by the Texas State Medical Fracture Committee. It is the desire of your First Aid and Fracture Committee to have the Board of Censors review the Texas correspondence with the idea of giving your opinion as to whether we shall carry out this same publicity in our newspapers to the public in the near future. The information which will be given to the papers should be presented as from the First Aid and Fracture Committee of this Association. It is also to be noted that the Texas State Highway De-

partment and Public Safety Committee joined in with their cooperation and suggestions.

Committee on Medical Archives and History

S. A. Gordon, Chairman

Your Committee on Medical Archives and History, the youngest of all the committees, begs to submit its first report. Having received no instructions from this body and with no precedent to guide us, hesitatingly we have been obliged to chart our own course by following the dictates of our enthusiasm.

After some little correspondence had passed between us, a helpful meeting was held in Montgomery on March 15, 1940.

As a working basis, these objectives were established:

(1) The stimulation of the recording of all medical data obtainable about Alabama physicians and medical events in our State.

(2) The collection and preservation of historical medical papers and medical equipment of former days.

(3) The securing of a fire-proof depository for the above and like material, so that those who donate or loan these relics of the evolution of Alabama medicine may rest assured that they will be kept safe for all time to come.

To the latter end, permission was granted your Committee by the State Department of Archives and History to house our properties in its beautiful, new and modern, fire-proof, marble building that is convenient to our Association's headquarters.

A modest beginning has been made in our archives by the acquisition, through the generosity of Dr. Toulmin Gaines of Mobile, of two letters from Dr. Josiah Nott, Alabama's leading surgeon of his day, the founder of the Mobile Medical College, one of the first to suggest "*animalculi*" as possible carriers of malaria, and an ethnologist of sufficient note to have been mentioned in the writings of Charles Darwin.

Also, a small number of reprints of Alabama medical historical papers have been assembled; and more have been promised.

Current medical historical researches now being conducted in the State are:

(1) The medical biographies of all five citizens, or former citizens, of Alabama, who have been elevated to the presidency of the American Medical Association, that are being compiled by Dr. Emmett A. Carmichael, Professor of Physiological Chemistry of the University of Alabama's Medical Department.

(2) The nearly completed "Medical History of Madison County, Alabama," by Dr. E. V. Caldwell, Chairman of our Board of Censors. This is to include a biography of every physician who has ever practiced in that county; and copies of these investigations will be preserved by your Committee.

(3) Dr. Toulmin Gaines, of Mobile, is engaged in writing the biographies of "The Three Mastins of Mobile," father and two sons, who were gifted pioneer surgeons of coastal Alabama.

This report could not be closed without an urgent plea to you fellow members of this Association to send us all the data you have, or can write down, about Alabama doctors, their practice and customs.

We particularly wish volunteers to collect biographical sketches of all the physicians who have practiced in the different counties while their descendants are still alive to supply the needed information and possibly photographs.

Lastly, we welcome gifts (or loans) of early medical diplomas, manuscripts, reprints, journals, commissions, diaries, signatures of the former presidents of this Association, early instruments and medical appliances, a set of spurs and saddle bags that were actually used in Alabama practice, and similar articles of historic interest.

Alabama's contributions to medicine, surgery and to public health have been noteworthy. Let us not fail to preserve every available record of them. To this end your Committee respectfully dedicates itself.

Miscellaneous Business

On motion of Dr. J. R. Garber, the Secretary was instructed to send flowers in the name of the Association to Dr. Cecil Gaston, critically ill at his home in Birmingham.

The President directed attention to the bouquet on the presiding officer's table, a gift of Dr. D. L. Wilkinson.

Telegram from the President of the St. Louis Medical Society was read calling attention to the fact that St. Louis would invite the American Medical Association to hold its 1943 convention in that city, and asking Alabama's delegates to give favorable consideration to the invitation.

Resolutions introduced by Drs. Chenault and M. Y. Dabney were referred to the Board of Censors.

The Association recessed for a buffet luncheon in the Colonial Room of the Tutwiler, a courtesy of the Jefferson County Medical Society.

Afternoon Session, Tuesday, April 16

2:00 P. M.

SECTION ON MEDICINE

Drs. Chas. H. Wilson and Lloyd Noland, Fairfield, presented a paper on "More Recent Ideas in the Treatment of Burns," which was discussed by Drs. Frank C. Wilson and Ralph Morgan of Birmingham.

Dr. R. O. Russell, Birmingham, read a paper on "Pneumonia: Emphasis on the Newer Forms of Treatment," which was discussed by Drs. E. M. Chenault, Decatur; Ivan Berry, Birmingham; M. B. Cameron, Eutaw, and J. W. Mehaffey, Birmingham.

The Section's guest speaker was Dr. J. B. Youmans, Nashville, who discussed "Vitamin Deficiencies in Practice."

Dr. D. C. Haisten, Dothan, presented a paper entitled "Sulfanilamide and its Derivatives."

Dr. Seale Harris, Jr., Birmingham, read a paper on "Treatment of Pituitary Disorders," which was discussed by Drs. G. O. Segrest, Mobile; J. O. Finney, Gadsden; Gilbert Douglas and J. A. Meadows, Birmingham.

Dr. T. K. Lewis, Birmingham, discussed "The Contraindications to the Use of Morphine in the Treatment of the Acute Stage of Myocardial Infarction," and the discussion was continued by Drs. F. W. Wilkerson, Montgomery, and J. F. Alison, Selma.

SECTION ON SURGERY

Dr. J. U. Reaves, Mobile, read a paper entitled "Urinary Lithiasis."

Dr. E. B. Frazer, Mobile, presented a paper on "Surgical Management of Ureteral Stones."

The papers of Drs. Reaves and Frazer were discussed by Drs. Walter Scott, Birmingham, and Brannon Hubbard, Montgomery.

Dr. Chalmers Moore, Birmingham, discussed "The Diagnosis of Brain Tumors," and the discussion was participated in by Dr. W. S. Littlejohn, Birmingham.

Dr. Frank K. Boland, Atlanta, the Section's guest speaker, presented a paper on "The Treatment of Acute Intestinal Obstruction."

Dr. W. C. Hannon, Mobile, gave a motion picture demonstration of "The Present Status of Fracture of the Hip."

Dr. D. C. Donald, Birmingham, read a paper entitled "Acute Cholecystitis and Biliary Disease: Immediate and Delayed Treatment: Report of 62 Cases."

Dr. Chas. J. Thuss, Birmingham, discussed "Skin Grafting and Reconstructive Surgery," and the discussion was continued by Drs. W. H. Blake, Sheffield; and J. D. Heacock and S. L. Ledbetter, Jr., Birmingham.

Dr. John L. Carmichael, Birmingham, presented a paper on "Intra-Abdominal Adhesions: Some Problems in Diagnosis and Treatment," which was discussed by Dr. R. K. Wilson, Carrollton.

Evening Session, Tuesday, April 16

8:00 P. M.

SECTION ON GYNECOLOGY AND OBSTETRICS

Dr. J. M. Weldon, Mobile, read a paper entitled "Chronic Endocervicitis," which was discussed by Drs. H. B. Dowling, Mobile; and T. M. Boulware and Gilbert Douglas, Birmingham.

Dr. M. S. Lewis, Nashville, discussed "The Management of Placenta Praevia," and the discussion was participated in by Drs. J. E. Garrison and J. R. Garber, Birmingham.

Dr. E. D. Colvin, Atlanta, presented a paper on "Maternal Mortality in the Southern States: Emphasis on the Causes and Prevention of an Increased Rate." The paper was discussed by Drs. A. E. Thomas and J. F. Dillon of Montgomery.

Dr. J. R. Garber, Birmingham, dealt with "The New Born as a Pediatric Entity," discussed by Dr. Stewart Welch, Birmingham.

SECTION ON PEDIATRICS

Dr. A. A. Walker, Birmingham, presented a paper entitled "Prematurity," discussed by Dr. Duncan Dixon, Talladega.

Dr. J. Mac Bell's contribution, "Vomiting: Its Symptomatology," was read by Dr. John W. Simpson, Birmingham, and discussed by Dr. S. P. Wainwright, Birmingham.

Dr. James W. Bruce, Louisville, Ky., discussed "Lead Poisoning in Infancy."

Dr. J. W. Britton, Anniston, read a paper on "Treatment of So-Called Colitis with Sulfanilamide," which was discussed by Drs. Amos Gipson, Gadsden, and Hughes Kennedy, Birmingham.

Dr. J. P. Robertson, Birmingham, presented a paper on "Urinary Infections in Children," discussed by Dr. J. U. Reaves, Mobile, and Dr. Chas. Abbott, Tuscaloosa.

Second Day, Wednesday, April 17

8:30 A. M.

SECTION ON PUBLIC HEALTH

Dr. Norman Van Wezel, Montgomery, read a paper on "Collapse Therapy of Pulmonary Tuberculosis," discussed by Drs. Holland Thompson, Montgomery; J. A. Redfearn, Albany, Ga.; Kellie Joseph, Birmingham; and Merle Smith, Parrish.

Dr. Robert B. Greenblatt, Augusta, Ga., presented a paper on "Evaluation of the Various Gonadotropic Hormones: Their Application to Female Endocrine Disorders,"

which was discussed by Drs. Gilbert Douglas and Lee Turlington, Birmingham.

Dr. E. S. Sanderson, Augusta, Ga., read a paper entitled "Laboratory Aids and Problems in the Diagnosis of Chancroid, Granuloma Inguinale and Lymphogranuloma Venereum," discussed by Drs. W. H. Y. Smith and Frank Riggs, Montgomery.

Dr. L. L. Hill, Jr., Montgomery, discussed the "Planigraph: A Simple Method for Making True Radiographic Images of Selected Planes," discussed by Drs. J. L. Smith, Montgomery, and H. M. Simpson, Florence.

SECTION ON EYE, EAR, NOSE AND THROAT

Dr. B. Frank Jackson, Montgomery, read a paper entitled "The Government's Aid-to-the-Blind Program," discussed by Dr. F. H. Clements, Birmingham; Dr. J. T. Cater, Montgomery, and Mr. C. B. Ganey, Talladega.

Dr. E. R. Nodine, Andalusia, discussed the "Modern Therapy of Sinal Disease," and the discussion was continued by Drs. T. F. Wickliffe, Jasper, and E. W. Rucker, Birmingham.

Dr. Wm. Thornwall Davis, Washington, D. C., gave an illustrated lecture on the "Treatment of Accommodative Squint."

Dr. N. E. Miles, Birmingham, presented a paper on "Some of the More Recent Advances in Cataract Surgery."

GENERAL SESSION

The Jerome Cochran Lecture was delivered by Dr. E. V. McCollum, Baltimore, his subject being "Some Contributions of Nutritional Research to Clinical Medicine."

MISCELLANEOUS BUSINESS

Vacancies in counsellorships were announced by the Secretary.

The Association recessed until 2:00 P. M.

Afternoon Session, Wednesday, April 17

2:00 P. M.

GENERAL SESSION

Dr. Merle Smith, Parrish, reported a case of "Delivery Complicated by Cervical Malignancy," discussed by Dr. K. F. Kesmodel, Birmingham.

Drs. Groesbeck Walsh and R. M. Pool, Fairfield, presented a paper entitled "A Study of Handedness in Medicine," which was discussed by Drs. C. M. Rudolph and J. B. McLester, Birmingham.

Dr. C. A. Grote, Huntsville, discussed "Heart Disease in General Practice."

The Association recessed until 8:00 P. M.

Evening Session, Wednesday, April 17

8:00 P. M.

PUBLIC MEETING

The Association's public meeting was addressed by Dr. J. S. McLester, Birmingham, "The Changing Picture of Disease in the Southern States"; and Dr. W. A. Evans,

Aberdeen, Miss., "The Doctor: What He Has Done and What He Promises To Do."

The public meeting was followed by a reception and dance at the Birmingham Country Club with the members of the Jefferson County Medical Society as hosts.

(To be concluded in the June Journal)

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF LABORATORIES

Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

MARCH 1940

Examination for diphtheria bacilli and Vincent's	759
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	539
Typhoid cultures (blood, feces and urine)	876
Examinations for malaria	1,113
Examinations for intestinal parasites	4,337
Serologic tests for syphilis (blood and spinal fluid)	22,026
Darkfield examinations	43
Examinations for gonococci	1,952
Examinations for tubercle bacilli	1,893
Examinations for Negri bodies (microscopic)	53
Water examinations (bacteriologic)	772
Milk examinations	1,977
Pneumococcus typing	79
Miscellaneous	1,583
Total specimens	38,002

THE EVALUATION OF SERODIAGNOSTIC TESTS FOR SYPHILIS¹

The outline of the procedure to be followed in the study of the various serologic tests performed in the United States has already been presented.² The results obtained in evaluating the different techniques as applied to blood sera have also been summarized.³ The present article has to do with these same tests as applied to spinal fluid.

As a measure of the sensitivity of the tests they were all applied to 110 specimens from

neurosyphilitic patients while their specificity was judged by their application to a group of specimens from 110 nonsyphilitic patients with other mental diseases.

The spinal fluid specimens referred to above were obtained from:

110 patients with syphilis of the central nervous system.

110 patients with no syphilitic psychoses and other mental abnormalities.

Clinical and serologic reexaminations were made on all presumably nonsyphilitic patients with psychoses or other mental abnormalities having more than one positive or more than two doubtful reports. Only a clinical confirmatory reexamination was made on patients with syphilis of the central nervous system whose serologic reports were predominantly negative.

CONCLUSIONS

The study indicated relatively equal value to the clinician of efficient complement fixation tests and efficient flocculation tests as applied to spinal fluids. The study further revealed that, while most flocculation tests were of approximately equal value to complement fixation as applied to spinal fluid specimens, certain of the flocculation methods were relatively inadequate.

(To be continued)

Public Health—A health department, whether federal, state or local, is an agency of the government, created by the people for mutual protection against a host of common enemies, enemies just as real and much more destructive in a given period of time than would be the enemy invading a country. All health department activities should be directed toward the prevention and control of disease and the promotion of a high standard of health. They deal with cause rather than effect. Therefore, the first need in the development of any public health program concerns itself with the organization of a state health department, supported by a strong board of health, comparable to the board of directors of a bank or a strong governing body.—*Sharp, Texas State J. Med., April '40.*

1. The Evaluation of Serodiagnostic Tests for Syphilis in the United States, Cumming, H. S., et al., J. A. M. A. 1934, 103: 22, 1705.

2. The Evaluation of Serodiagnostic Tests for Syphilis, Damon, S. R., J. M. A. Alabama, March 1940.

3. The Evaluation of Serodiagnostic Tests for Syphilis: Report of Results on Blood Specimens, Damon, S. R., J. M. A. Alabama, April 1940.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

MILK-BORNE DISEASE

"I'll Take Mine Pasteurized" is the engaging title of an editorial in the New York Endicott Times which is reprinted in the April 1st number of Health News of the New York State Department of Health. Objection on the part of the Middletown Times Herald to a proposed pasteurization law for that city called forth the present editorial. To quote in part:

"Well, now let's take a look at all sides to this question. I never saw a question that didn't have two sides. If it doesn't have two sides it isn't a question. I'll match my enthusiasm for individual liberty against the Middletown editor's any time. And I'm just as opposed to unwarranted governmental interference with individual freedom as any man in this country. But I put the emphasis on 'unwarranted.' Past experience with epidemics of disease traced to infected raw milk gives considerable warrant for limiting the distribution of raw milk. I haven't forgotten that epidemic of scarlet fever in Owego a year or so ago. The village board there appear to have been determined it wouldn't be forgotten, also, for they barred raw milk! For you see it has always been the policy of government in America to curb the individual when the exercise of his individual 'rights' interfered with the rights of his fellow citizens. That's why you can't drive on the left side of the road. That's why you can't park in front of a fire hydrant, although that is quite often the only space available, and there isn't any fire in town either. But you are forced to inconvenience yourself no little, and drive several blocks out of your way. Why? Well, *There might be a fire!* You see, government protection of the rights of all at the expense of the individual's unlimited freedom enters the field of possible damage to others as well as actual. That's the way it is with raw milk. It may be all right. But the government's regulations concerning it are based on the fact that past experience warrants the assumption that it may be all wrong!

"Now I haven't heard of anyone kicking about his individual liberty being tampered with because he can't buy arsenic without government authority. But if you take arsenic and die, you're the only one that gets hurt. Arsenic poisoning isn't infectious or contagious. But these milk-borne epidemics don't stay within the limits of 'individual liberty.' They trespass on the realm of individual liberty other people set up, who try to protect their own health and that of others by the use of products *known* to be safe. That's why there's more reason why the government should interfere with the 'milk guessers' than the purchasers of arsenic. I haven't heard anybody attack the illegal aspects of suicide. For it is against the law to commit suicide. But the law against murder is even more desirable. And when a fellow wilfully ignores the danger signals

on milk that may be infected, and introduces into his community an epidemic that may kill a number of people before it runs its course, what are you going to call him? I say to you, Mr. Middletown editor, that he is no more blameless than the man who points a gun at another and pulls the trigger, killing him 'accidentally' because he didn't know it was loaded! It must be pretty obvious from the result that *He didn't know it wasn't loaded!* And the victim is just as dead as if his slayer had slaughtered him intentionally.

"I used to be a very sincere defender of individual liberty as it affects raw milk. But I had to face facts. The rest of my former colleagues will have to face them sooner or later, also. Heating milk to a temperature of 143 to 145 degrees and holding it there for a period of thirty minutes isn't too difficult. In the face of milk-borne epidemics in the State from 1917 to 1938 which affected the health of 8,382 people and involved 1,203 cases of typhoid, 123 cases of diphtheria, 1,442 cases of scarlet fever, 4,452 cases of septic sore throat, 311 cases of dysentery, 11 cases of polio and 840 cases of gastroenteritis, I'll take mine pasteurized!"

Alabama has been very fortunate in its number of milk-borne epidemics but occasionally they do occur. Very recently an outbreak of intestinal disease in one of our Alabama cities was investigated and found to be due to a Flexner dysentery infection. Approximately 150 cases occurred and the common source of infection was raw milk from one dairy. Pasteurization would have prevented this outbreak and would also have saved the dairy from its subsequent loss of patronage.

TREATMENT OF LATE SYPHILIS

Infection with syphilis for a period longer than four years is spoken of as late syphilis. Treatment of late syphilis, with one exception, is usually individualized. This exception to individualized treatment in late syphilis is latent syphilis and, as in early syphilis, standardized outline of treatment may be used.

The question is sometimes asked, "Just how long is latent or late syphilis to be treated?" Many times this question is not asked but treatment is continued for years in an effort to change a positive serologic test to a negative one. Since quite a number of patients with late syphilis will continue to have a positive blood test, continuation of treatment over many years is often unnecessary and unwarranted. Late syphilis should be treated for at least two to three years and sometimes longer depending on

how quickly the infection is brought under control. However, the type of treatment, the amount of drugs used and the method of alternating the various treatment procedures are dependent on the type of late involvement. But every patient with late syphilis should have a careful physical examination before treatment is begun and before release is given after treatment. This examination should be meticulously careful and should include the central nervous and cardiovascular systems. Many patients will be saved from overtreatment and perhaps many will be saved from the consequences of inadequate treatment if the careful physical examination is adhered to before releasing any syphilitic patient.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

HALITOSIS

Halitosis, better known as bad or offensive breath, we all have a great portion of the time and the breath we all spurn.

Halitosis does not cause any pain, or alter our plans, and yet it is a most disagreeable condition which sometimes interferes with our practice. Aside from the complaints of our patients of their ailments, they sometimes complain of their doctor or dentist having halitosis.

Halitosis is a condition that in the majority of cases can be corrected because halitosis is a condition; a condition that may arise from many disorders such as causes springing from:

1. Purely dental conditions.
2. Diseases of the nasopharyngeal region.
3. Digestive tract.
4. Broncho-pulmonary diseases.
5. Metabolic, infectious, febrile and genito-urinary diseases.
6. Diseases of the soft structures of the oral cavity.
7. Presence of absorbed drugs or poisons.
8. Foods, condiments and stimulants.

The above conditions will help to determine why we are having halitosis. About 90% of all cases of halitosis are from the oral cavity or from a dental origin. Due to the soft foods we eat and the lack of brushing the teeth and possibly the improper brushing technique, foods stay in the mouth long enough to ferment, producing a foul

odor. In brushing the teeth, we forget the interproximal spaces where food will remain from one meal to the next. It is impossible to be free from halitosis while we are suffering from dental caries. With cavities in the teeth, it is easy for food to be retained in the mouth long enough to ferment, as food cannot be dislodged from cavities with a toothbrush, toothpick or dental floss.

We may have cavities in the approximal surfaces, with the x-ray the only means of finding them. Regardless of how small the cavities are, food will be deposited for fermentation. Beside the halitosis, we are constantly tearing down our dentition. Mouths with tartar deposits, calcium deposits that have been allowed to collect on the teeth for months, usually have halitosis. The tartar and calcium irritate the gums and produce a gingivitis. Often the gingiva will recede exposing the necks of the teeth leaving v-shaped spaces between the teeth that readily fill with food. The more gum recession allowed, the more difficult it becomes to keep a mouth free from halitosis. We may have a filling with overhanging margins infringing upon the gums, which frequently causes a disease condition of the gum, in turn giving rise to halitosis.

Improper use of dental floss, such as forcing the tape between the teeth, with a jerk or snap which will traumatize the gum tissue, or forcing the floss below the free margin of the gum tissue, may in turn cause a gingivitis.

Any artificial substitute such as artificial teeth, crowns, fixed or removable bridges should be kept immaculate. Artificial dentures, especially those made of vulcanized rubber, are prone to give off offensive odors, called "false teeth odor." These dentures give off such odors due to the porosity, the slight drawing away of the porcelain teeth from the dentures. They should be scrubbed daily with a stiff brush, using an abrasive suggested by a dentist.

Halitosis is an aid to dentists and physicians in diagnosis; as for example, "the diabetic breath." One of the earliest outstanding symptoms of diabetes mellitus is a typical fruity odor from the oral cavity, variously described as resembling decaying apples, fresh cider or acetone.

Chronic constipation may at times give rise to a fecal odor of the breath. An outstanding symptom of Vincent's angina is a

characteristic foul odor. This odor may be detected within a few feet of the patient. Some drug poisoning may be detected by the breath, such as chronic lead poisoning giving a sweetish metallic odor.

Halitosis may be caused from the food we eat, such as onions and garlic, or from the seasoning we use in our food. Onions may remain on our breath ten to twelve hours. According to Stallard, garlic may be recognized from the mouth seventy hours after its ingestion. Alcohol and tobacco impregnate the breath for a prolonged period of time. The tobacco smoker usually has tartar deposits on the teeth. With this unclean condition the odor remains for several hours. However, a larger portion of the odor of tobacco is retained in the lungs due to the inhaling of the tobacco smoke.

Halitosis is merely an indication of some local or general disturbance and it behooves us to determine its cause from a selfish standpoint and for the happiness of the people we contact. It is inexcusable for anyone, after having discovered that he is the unfortunate victim of halitosis, to neglect the employment of suitable measures for its eradication.

Regular prophylactic care by a dentist with proper brushing technique, brushing the teeth regularly, and proper use of dental floss and toothpicks will eliminate halitosis in the majority of cases.

B. P. E.

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E., Director

RURAL SANITATION

Other articles appearing in this Journal have dealt with the solution of the problem of municipal sanitation by the installation of a combination of disposal systems which will meet, in a practical way, both the physical and economic status of all the properties in the municipality. Such a combination usually consists of a sewer system supplemented by systems of septic tanks and pit privies. Regardless of the type of excreta disposal methods used, the responsibility of providing adequate means for securing protection for the entire population from the dangers arising from the improper disposal of human wastes has rightfully been placed upon the municipality.

Municipal work has progressed on the basis of an accurate analysis of the conditions as found in each city or town. The simplicity and practicability of the program is convincing, and the manner in which municipal authorities have realized and assumed their just responsibilities in regard to providing adequate sanitation for all of the people under their jurisdiction has been gratifying. When properly approached with a clear presentation of the needs of the town or city and accompanied by a logical and practical solution to the problem, a large majority of the authorities have responded favorably and promptly.

In several of the counties, these municipal problems have been largely completed and the respective health departments must turn their attention to the rural areas. As soon as all of the municipalities take full responsibility for the protection of the entire city and provide arrangements for maintenance of the combined disposal system, the county health departments will then be able to spend much needed time and effort in planning and organizing rural sanitation programs.

As yet, no comprehensive and well-rounded program, which will solve the sanitation problem in the rural areas, has been planned and put into operation in any county. Much basic work can be and has been done by the health departments in securing the cooperation of and working with such local agencies as the education departments, farm agents, home demonstration agents, welfare departments and civic clubs. All of these organizations are vitally interested in the well-being of the people and can be easily enlisted as active promoters of better sanitation conditions.

The demand for sanitation by the rural people has been increased by educational efforts on the part of health workers. The erection of power lines in the rural sections increased the demand, caused by the desire of the people for modern conveniences, for inside water flush toilets connected to septic tanks and ground absorption fields. Promotional and educational work has and is being done among the customers on these lines not only to secure sanitation but proper and adequate facilities.

In the strictly rural field an agency, the Farm Security Administration, has been co-operating with the department for about

three years. Several thousand families have been provided with sanitary privies by aid from this agency. These installations are of special importance as they represent many which otherwise could not have been reached by ordinary methods, due to the economic status of these persons.

As of educational value and as a demonstration, the foregoing activities of health workers in the rural areas have been well worth while. However, the complete sanitation of all the homes in the rural sections of a county cannot be attained by such well-meaning but unorganized methods. Serious consideration and thought have been given to a more organized program. An attempt has been made to set up machinery in the form of a legislative act to enable counties, as units, to solve the problem in a logical, straightforward and practical manner. The proposed act was drafted after an opinion had been rendered by the Attorney General's office that the State Legislature had the authority to delegate powers to the governing bodies of counties relative to making sanitation improvements and charging the cost of same against the property affected.

Basically the powers to be given to the county officials are similar to those already given to the municipal authorities by the Legislature under an act known as the "Kelly Act" (Section 2051 of the Code of Alabama of 1923, as amended by the Acts of 1927, page 41, and as amended by the Acts of 1935, page 918, et seq.).

Although the proposed act was not received and acted upon favorably by the Committee on Public Health of the State Legislature during its last session, it is felt that only through the application of this act or the basic principles involved, will the logical approach to and ultimate solution of the rural sanitation problem be realized.

Intensive educational work by the county health personnel, using each county as a unit, is indicated. The education of members of the county governing body to the realization that they have a real and actual responsibility in regard to the protection of the people of the community from the danger of diseases that arise from the improper disposal of human wastes is essential. The education of members of the State Legislature and "key" citizens in each county regarding this problem is of equal importance.

This program (ultimate conclusion) is considered as a long-range one and will require the collection of information on the existing conditions, by counties, and a presentation of a logical solution of the problem to the proper authorities.

The following statement was made and question asked in the June 1939 issue with regard to this matter: "County health departments have a problem to solve. Does it not appear that the time has come to take counsel and seek a solution?" This is a pertinent question and should be asked repeatedly.

R. V. B.

BUREAU OF VITAL STATISTICS

Leonard V. Phelps, S. B. in P. H., Director







FARM INDUSTRIAL ACCIDENTS

This article is the third in a series on deaths from accidental causes on the farm. In the second article the distribution of deaths from farm home accidents was shown; in this, the distribution of farm industrial deaths. A death was considered industrial when it was caused by an accident arising while gainfully following farming pursuits.








During the seven-year period (1932-1938), there were 309 farm industrial deaths. Of that number, 58 (19.2 per cent) were caused by animals; 53 (17.6 per cent), falling objects; 47 (15.6 per cent), lightning; 29 (9.6 per cent), sunstroke; 26 (8.6 per cent), vehicles and 19 (6.3 per cent), burns. Falls and machinery were each responsible for 16 deaths. The above distribution is shown pictorially in the accompanying chart entitled "Agency of Injury."

Industrial farming activities are also of interest. Of the total number of deaths, 52 (20.5 per cent) resulted from accidents while cutting and sawing lumber; 37 (14.6 per cent), caring for animals; 31 (12.2 per cent), plowing; 22 (8.7 per cent), driving vehicles; 17 (6.7 per cent), clearing land; 17 (6.7 per cent), riding animals and 12 (4.7 per cent), building and repairing. Hoeing, operating machinery and loading or unloading vehicles were each responsible for 10 deaths. The chart entitled "Activity" shows the distribution of deaths pictorially.

FARM INDUSTRIAL ACCIDENTS—AGENCY OF INJURY

	Deaths	Per Cent
 Animals -----	58	19.2
 Falling Objects -----	53	17.6
 Lightning -----	47	15.6
 Sunstroke -----	29	9.6
 Vehicles -----	26	8.6
 Burns -----	19	6.3

FARM INDUSTRIAL ACCIDENTS—ACTIVITY

	Deaths	Per Cent
 Cutting Lumber -----	52	20.5
 Caring for Animals -----	37	14.6
 Plowing -----	31	12.2
 Driving Vehicles -----	22	8.7
 Clearing Land -----	17	6.7
 Riding Animals -----	17	6.7
 Building and Repairing ----	12	4.7

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

1940

	Feb.	March	Estimated Expectancy March
Typhoid	6	9	11
Typhus	15	10	7
Malaria	48	81	61
Smallpox	0	2	4
Measles	317	804	1026
Scarlet fever	60	81	56
Whooping cough	81	103	146
Diphtheria	31	47	53
Influenza	3421	1863	2280
Mumps	57	100	187
Poliomvelitis	3	1	2
Encephalitis	0	1	4
Chickenpox	125	155	222
Tetanus	5	0	4
Tuberculosis	206	226	248
Pellagra	15	20	19
Meningitis	4	10	11
Pneumonia	1004	894	558
Ophthalmia neonatorum	0	2	2
Trachoma	0	0	0
Tularemia	0	0	2
Undulant fever	2	6	1
Dengue	0	0	0
Amebic dysentery	0	0	0
Cancer	181	32	0
Rabies—Human cases	1	0	0
Positive animal heads	14	19	

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

Medical News

(Secretaries of county medical societies and other physicians will confer a favor by sending for this section of the Journal items of news relating to society activities.)

The American Board of Internal Medicine will conduct oral examinations just previous to the meeting of the American College of Physicians in Cleveland and just in advance of the meeting of the American Medical Association in New York City.

Applicants who have successfully passed the written examination and plan to take the oral examination in 1940, should advise the office of the Secretary at least six weeks in advance of the date of the examination they desire to take.

The next written examination for 1940 will be given on October 21st. Applications for this examination must be filed in the Secretary's office by September 1st.

Application forms may be obtained from Dr. William S. Middleton, Secretary-Treasurer, 1301 University Avenue, Madison, Wisconsin, U. S. A.

Dr. E. V. McCollum, Professor of Biochemistry, School of Hygiene and Public Health, The Johns Hopkins University, delivered the annual lecture for the University of Alabama Chapter of Sigma Xi on April 17. The subject of his lecture was "The Diet in Relation to Dental Disease."

* * *

During the convention of the American Medical Association in New York City, June 10 to 14, 1940, the Jefferson Medical College Alumni Association will hold its Reunion Banquet on Wednesday, June 12, at 7 o'clock P. M. at the Murray Hill Hotel on Park Avenue at 40th Street.

* * *

The 69th Annual Meeting of the American Public Health Association will be held in Detroit, Michigan, October 8-11, with the Book-Cadillac Hotel as headquarters.

The Michigan Public Health Association, the American School Health Association, the International Society of Medical Health Officers, the Association of Women in Public Health, and a number of other allied and related organizations will meet in conjunction with the Association.

* * *

One hundred and twenty-eight members from twenty-four collegiate chapters attended the sixth biennial convention of Alpha Epsilon Delta, national honorary pre-medical fraternity, which was held with the Oklahoma Alpha chapter at the University of Oklahoma from March 21 through March 23, 1940, under the direction of Dr. Charles F. Poe, national president. This high registration keynoted the interest and enthusiasm of the members for the activities and progress of the fraternity.

The convention opened with an informal meeting on Thursday evening at which time an initiation, of candidates from the Oklahoma Alpha chapter, was conducted by the national officers. Following the initiation, Dr. Felix M. Adams, Eastern Oklahoma State Hospital for the Insane, Vinita, Okla., gave a lecture on "Insulin Shock and Metrazol Treatment," which was illustrated with a film in technicolor. Tours of the University of Oklahoma Medical School at Oklahoma City and the Central Oklahoma State Hospital at Norman, acquainted the visitors with some of the medical facilities of the state. On Friday evening, at an Indian Din-

ner and program, they were initiated into the secrets of the training of the Indian medicine man.

The convention awarded the activities cups for the most active chapters in the past two years to the chapters at the University of Alabama and Central College, Fayette, Mo.

The convention banquet was held at the Biltmore Hotel, Oklahoma City, on Saturday evening, at which time Dr. Henry H. Turner, assistant professor of medicine, School of Medicine, University of Oklahoma, gave an address entitled "The Wagner Health Bill," and Dr. Wendell Long, Oklahoma City gynecologist, presented "A Brief History of Medicine."

In recognition of their commendable work for the fraternity the convention reelected the following national officers: Dr. Charles F. Poe, professor of chemistry, University of Colorado, National President; Dr. Kenneth P. Stevens, professor of biology, Central College, National Vice-President and Editor of *The Scalpel*; Dr. Maurice L. Moore, research chemist, Sharp & Dohme, Drexel Hill, Pennsylvania, National Secretary; Dr. W. H. Steinbach, professor of chemistry, University of Arkansas, National Treasurer; and Dr. Emmett B. Carmichael, professor of physiological chemistry, School of Medicine, University, Alabama, National Councilor.

* * *

The American Medical Golfing Association's Twenty-Sixth Annual Tournament will be held at Winged Foot Golf Club, Mamaroneck, New York, Monday, June 10, 1940. Winged Foot has two famous championship courses and a beautiful club house.

Some 250, out of the 1,360 Fellows of the A. M. G. A., are expected to take part at Winged Foot in the 36-hole competition. Each contestant will play both courses. The hours for teeing off are from 7:00 A. M. to 2:00 P. M.

The sixty prizes, in the nine events, will be distributed after the banquet at the club house at 7:00 P. M.

Officers of the A. M. G. A. for 1940 are George Washington Hall, M. D., Chicago, President; D. H. Houston, M. D., Seattle, First Vice-President; Grayson Carroll, M. D., St. Louis, Second Vice-President; Bill Burns, Secretary, 2020 Olds Tower, Lansing, Michigan.

The New York Golf Committee is composed of James Craig Joyner, M. D., Chairman, 718 Park Avenue, New York; Edwin G. Zabriskie, M. D., Charlton Wallace, M. D., Orrin Page Wightman, M. D., and Asa Liggett Lincoln, M. D.

All members of the A. M. A. are eligible for fellowship in the A. M. G. A. For registration application write the Secretary.

* * *

Increasing interest in physical medicine throughout the South by physicians, hospital workers, nurses and technicians brings to the Southeastern States the second annual gathering of the Southeastern Section of the American Congress of Physical Therapy. The success of last year's gathering brings also expanded activities in the form of a two-day session which will be held May 20 and 21 at the Atlanta Biltmore Hotel, Atlanta, Georgia. The first day will be given over to an instructional seminar consisting of six important lectures on the more prominent subjects in physical medicine. On the evening of the same day the annual banquet will be held and following it the scientific program will be inaugurated. The scientific program will continue throughout the second day, the evening's program conducted under the joint auspices of the Congress Section and the Fulton County Medical Society. While no fee will be charged for attendance at any of the scientific sessions, registration for the seminar will be \$2.00. Every effort has been made to bring together from various parts of the country leaders in the physical therapy field. This meeting should, therefore, prove of inestimable value to those interested in this newest science. General practitioners in particular should benefit from the seminar and the scientific presentations. Those contemplating registering for the seminar should do so by mail, if at all possible, remitting \$2.00 to Dr. Kenneth Phillips, Secretary, 1150 S. W. 22 Street, Miami, Florida.

Among the evening speakers will be Drs. Earl C. Elkins, Consultant in Physical Medicine, Mayo Clinic, Rochester, Minnesota; John D. Currence, Assistant clinical Professor of Medicine, New York Post-Graduate Medical School, Columbia University; N. H. Polmer, Professor of Physical Therapy, Graduate School, Louisiana State University Medical Centre; Walter J. Zeiter, Director

of Physical Therapy, Cleveland Clinic and Edgar G. Ballenger, Atlanta, Georgia.

* * *

The American Board of Obstetrics and Gynecology announces that the general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted at Atlantic City, N. J., from Friday, June 7, through Monday, June 10, 1940, prior to the opening of the annual meeting of the American Medical Association in New York City on Wednesday, June 12, 1940. Formal notice of the exact time and place of the examination will be forwarded to each candidate several weeks in advance of the examination dates. Group A candidates will be examined on June 7 and 8, and Group B candidates on June 9 and 10.

* * *

The 25th Annual Meeting of The American Association of Industrial Physicians and Surgeons, together with the first annual meeting of The American Industrial Hygiene Association, will be held at Hotel Pennsylvania, New York City, June 4, 5, 6 and 7, 1940. This will be a four-day convention intensively devoted to the problems of industrial health in all of their various medical, technical, and hygienic phases, with particular stress on prevention and control of occupational hazards. Important programs have been prepared, and technical and scientific exhibits will be a feature of the convention. The dinner on Thursday evening, June 6th, will be the occasion of the presentation of the Wm. S. Knudsen award for the year of 1939-40. The medical profession is not only invited, but urged to attend these gatherings as they will be of unusual interest and value to all practitioners interested in industrial injuries and illnesses.

1941 MEETING OF
THE ASSOCIATION
MOBILE
APRIL 15-16-17

Book Abstracts and Reviews

Ten Years in the Congo. By W. E. Davis. Cloth. Pp. 301. Price, \$2.50. New York: Reynal & Hitchcock, 1939.

Shortly after the United States entered the first World War in 1917, two brothers sold their tire shop in Walla Walla, Washington, and enlisted for war service. One of them was W. E. Davis, the author of this book. At that time, and for some time later, he had no intention of becoming a physician. Instead, he was very interested in chemistry and intended to enter that field, specializing in rubber.

When he was discharged from the Marine Corps at the end of the war, however, rubber chemistry had lost its attraction for him. He was pretty sure he did not wish to enter that field, but he had no very definite idea as to what he did want to do as a life work. So he returned to college, hoping that he would be prepared for any kind of work that might appeal to him later.

He and several college friends nursed a scheme to make a round-the-world trip college-boy style after graduation, but nothing came of it. With that definitely out of the window, he became interested in medical missionary work and looked to China as his chosen field. In preparation for that service, he enrolled in the College of Missions, associated with Butler University, in Indianapolis. There he met a young woman, presumably an African missionary or the daughter of one, who immediately interested him in herself and in Africa. As a result of that double interest, the young woman became Mrs. Davis and he became, after five years in medical school at Northwestern University, a missionary to the Congo. This book is a record of the ten years he spent there.

The publishers are justified in calling it "a new kind of African book, with unhackneyed material, a fresh point of view, and a charmingly honest and unpretentious way about it." It is all that. It is, moreover, very interesting reading.

His medical practice covered an area as large as the state of Connecticut. Unlike his professional brothers in private practice, he had no competition. He found great satisfaction, as well he might, by the realization that, instead of serving those who might be better served by other practitioners, he was rendering healing aid to those who would receive no aid at all if he did not render it.

"Whatever the future may hold for me," he wrote, "nothing can rob me of the satisfying feeling that for a number of years I was able to pull some teeth and set some bones and lance some boils that would have gone untreated but for me; that I have been the doctor for countless souls who otherwise would have had no doctor at all."

That was a busy decade for the Northwestern University graduate. During his last year at Lotumbe, he and his assistants treated 65,000 patients at his dispensary, and he performed 536 major operations. These figures become even more impressive when it is remembered that he was away from the station during nearly three

months of that time, making trips into the back country, where he treated several thousand more.

It is hardly correct to say, as was said two or three paragraphs back, that Dr. Davis had no competition in his work of healing. He had none of the orthodox sort, it is true. But there were others offering the natives cures for their aches and pains. These unorthodox competitors of his were the witch doctors.

"They were ubiquitous," he declared. "They were—and are—the spiritual buzzards of Congo life, circling over human woe, searching with their preternaturally penetrating eyes for signs of failing strength, battenning on the miseries of their fellow men. I never went to see a dying man, in all the years that I was there, that I did not find a native medicine man attending, too, or realize that he had barely got out of sight. It was not strange that this was so, for the witch doctor exists and maintains his power as a result of the beliefs of the people, and none of them might pass away in peace without his ministrations."

This is indeed an absorbing narrative, with a special appeal to those who minister to the sick. Informative though it is, it may be read for entertainment as well as for knowledge.

J. M. G.

A History of Tropical Medicine. By H. Harold Scott, C. M. G., M. D., F. R. C. P., Lond., D. P. H., D. T. M., and H. Camb, F. R. S. E., Director, Bureau of Hygiene and Tropical Diseases; Member of the Colonial Advisory Medical Committee; Late Medical Secretary, Colonial Medical Research Committee; Lecturer in Tropical Medicine, Westminster Hospital Medical School; Milner Fellow, London School of Tropical Medicine; Colonial Medical Service. Cloth. Price, \$12.50. Two volumes of 1,165 pages with 13 illustrations. Baltimore: The Williams and Wilkins Company, 1939.

This two-volume work is based on the Fitzpatrick Lectures delivered before the Royal College of Physicians of London 1937-38. It is a monumental undertaking in that the author has carried the history of each disease which he discusses back as far as records are available and has traced their recognition in different parts of the world. To the student of tropical diseases these volumes offer a veritable gold mine of information while their contents should prove of interest to every practitioner and particularly those in temperate climates.

As is to be expected, diseases such as malaria, yellow fever, cholera and plague receive major emphasis but interesting chapters are also devoted to leprosy, undulant fever, pellagra, scurvy, ankylostomiasis and the more purely tropical infections such as kala-azar, trypanosomiasis, leishmaniasis, etc. In addition to the discussion of individual diseases the author has also included the medical history of the British Navy and Mercantile Marine, the British Army and the various British colonies, giving the evolution of knowledge as it relates to disease prevention and treatment. The influence of the slave-trade on the spread of tropical diseases and histories of the building of the Suez and Panama Canals are interestingly handled. Incidentally the author gives credit to Alabama's own Josiah Clark Nott for being the first to publish an article claiming

a relationship between yellow fever and mosquitoes.

Biographies of Jacobus Bontius, David Bruce, Oswaldo Cruz, John Everett Dutton, Juan Carlos Finlay, Garcia da Orta, William Crawford Gorgas, Jesse W. Lazear, William Boog Leishman, James Lind, Patrick Manson, Hideyo Noguchi, Walter Reed and Ronald Ross precede the detailed bibliography.

D. G. G.

Directory of Medical Specialists. Certified by American Boards, 1939, and edited by Paul Titus and J. Stewart Rodman, Associate Editor. Cloth. Price, \$5.00. Pp. 1,588. New York: Columbia University Press, Morningside Heights, 1940.

This, the only official directory of its kind, lists approximately 14,400 diplomates certified by the twelve special American boards and one of the two affiliate boards.

A separate section is devoted to each American board, with both a geographic and a biographic listing of its diplomates. In addition, there is a complete alphabetic list of all the 14,400 diplomates. In this list there are addresses and indications of specialty certification, while in the geographic sections complete biographic information is given. The organization and examination requirements of each of the American boards are explained in full.

All these features make the directory unique and invaluable to doctors, (specialists or general practitioners), hospitals, social agencies, libraries, medical societies, business organizations, etc. It will help hospital officials pass on the ability of candidates for staff positions. It will provide medical society officers with authoritative lists. Family physicians can form an accurate judgment of the qualifications and ability of specialists in any branch of medicine for the benefit of patients. In short, it has so many practical uses that it is certain to be an indispensable reference tool for thousands of individuals and organizations.

Contents: Introduction; List of Abbreviations; Biographical List of Diplomates by State and City; Advisory Board for Medical Specialties; The American Board of Anesthesiology; The American Board of Dermatology and Syphilology; The American Board of Internal Medicine; The American Board of Obstetrics and Gynecology; The American Board of Ophthalmology; The American Board of Orthopaedic Surgery; The American Board of Otolaryngology; The American Board of Pediatrics; The American Board of Plastic Surgery; The American Board of Psychiatry and Neurology; The American Board of Radiology; The American Board of Surgery; The American Board of Urology; Alphabetical List of Diplomates.

The Abnormal in Obstetrics. By Sir Comyns Berkeley, M. A., M. C., M. D., (Cantab.), F. R. C. P. (Lond.), F. R. C. S. (Eng.), M. M. S. A. (Hon.), F. C. O. G.; Victor Bonney, M. S., M. D., B. Sc. (Lond.), F. R. C. S. (Eng.), F. R. A. C. S. (Hon.), M. R. C. P. (Lond.); and Douglas MacLeod, M. S., M. B. (Lond.), F. R. C. S. (Eng.), F. R. C. P. (Lond.), M. C. O. G. Cloth. Price, \$6.00. Pp. 525. Baltimore: William Wood and Company, 1939.

The author has compiled a veritable encyclopedia of diseases with their relation to pregnancy. The text is not detailed. The bibliography is divided into chapters giving the reader an opportunity to read in detail concerning any given disease. The diseases are discussed by systems and organs. The chapters on mental disorders and skin will be of especial interest. The statement is made in the chapter on eclampsia that this disease has not decreased sufficiently since the establishment of the clinics for the underprivileged women. He gives no reason for this. It is a well known fact that the obstetricians seldom have a case of eclampsia occurring among private cases. Could it be that the physicians caring for clinic patients are not giving as careful supervision of the clinic patients as they give their private patients? We know that inadequate diet and overwork also play a part. More careful supervision of clinic patients with attention to aiding in the home situation should help to decrease the incidence of eclampsia. Conservatism in the care of eclamptic patients is urged.

The physician doing obstetrics will find this to be a very handy reference book especially in the unusual complications of pregnancy.

E. F. D.

A Textbook of Obstetrics, with Special Reference to Nursing Care. By Charles B. Reed, M. D., F. A. C. S., Associate Professor of Obstetrics, Northwestern University Medical School; Head of Obstetrical Department, Wesley Memorial Hospital, Chicago; and Bess I. Cooley, R. N., Supervisor and Instructor, Department of Obstetrics, Wesley Memorial Hospital, Chicago. Cloth. Price, \$3.00. Pp. 476. St. Louis: The C. V. Mosby Company, 1939.

This text was written especially for nurses but the many brief and practical suggestions for treatment will be of interest to physicians as well. Nearly one-fourth of the book is given over to antepartum care. The pages on diet are very detailed. The author approves an increase of proteins during pregnancy. He advocates the so-called low protein diet, i.e., no meat, eggs, fish, etc., with the first appearance of toxemias though milk may be increased which actually may give the patient more protein than she had before.

This book is well illustrated. The subject matter is easy to locate because of the heavy type used in the heading. The glossary is adequate and the index is complete. The author in the epilogue gives good sound advice to both the nurse and doctor regarding their care of the expectant mother, especially during and following labor.

E. F. D.

Truth About Medicines

PROPAGANDA FOR REFORM

Thiazole Derivatives of Sulfanilamide.—The introduction of sulfanilamide into American therapeutics early in 1937, as was to be expected, was soon followed by the presentation of a derivative representing a combination of pyridine and sulfanilamide,

which received the nonproprietary term sulfanilamide. Now come reports of two more derivatives of sulfanilamide—sulfathiazole and sulfamethylthiazole. A preliminary report of the Council on Pharmacy and Chemistry, prepared by Dr. Perrin H. Long, on these substances appears in the Journal, March 9, 1940, p. 870. All of these sulfanilamide derivatives are quite similar in their basic character. One group of workers (Herrell and Brown) have stated that sulfamethylthiazole has been found efficient in the treatment of some infections caused by staphylococcus organisms. Further investigation of the effectiveness of the compound in diseases caused by staphylococci is decidedly in order, for if the product is found to be of value in these diseases it certainly will have advantages over sulfanilamide. Again it is fortunate that the product has not been placed on the open market before physicians are given an opportunity to know more about it. (J. A. M. A., March 9, 1940, p. 873.)

Science and Sal Hepatica.—According to the radio advertising of Sal Hepatica, a scientific research conducted by leading medical magazines indicates that a high percentage of doctors always prescribe a saline laxative when treating a common cold. Of course the names of the leading medical magazines are not given. Part of the scientific story is the claim that Sal Hepatica is the "mineral salt laxative that does two things, not just one; it rids the body of waste and it also combats acidity." The history of Sal Hepatica is a strange commentary on the kind of science that used to be sold to credulous Americans. In 1911 Sal Hepatica was advertised as a uric acid solvent, said to be indicated in stomach, liver and kidney disorders, and especially beneficial in rheumatism and gout. In 1916 it was promoted because it was said to be useful in the treatment of pyorrhea. By 1929 it was called the American equivalent of European spas, and listeners were told that it was good also for headaches, colds, rheumatism and auto-intoxication. Actually there is nothing to Sal Hepatica according to recent analyses except Glauber's salt, baking soda and tartaric acid, common salt, sodium phosphate, a trace of lithium carbonate and water. Any doctor knows what that is good for and a variety of conditions which it is not good for. (J. A. M. A., March 23, 1940, p. 1082.)

CALORIE COMPUTATIONS



Moving Day—Who Packed Sonny's Cod Liver Oil?



No need to worry about cod liver oil when the feeding is S.M.A. Vitamins A, B₁ and D are provided in S.M.A., in adequate amounts to meet the nutritional needs of normal, full-term infants.

Diluted, ready to feed, each quart of S.M.A. provides 7500 U.S.P. units vitamin A, 400 U.S.P. units vitamin D and 200 U.S.P. units vitamin B₁.

S. M. A. IS ECONOMICAL TO FEED. INFANTS RELISH IT, DIGEST IT EASILY AND THRIVE ON IT.

S. M. A. is a food for infants—derived from tuberculin-tested cow's milk, the fat of which is replaced by animal and vegetable fats including biologically tested cod liver oil; with the addition of milk sugar and potassium chloride;



altogether forming an antirachitic food. When diluted according to directions, it is essentially similar to human milk in percentages of protein, fat, carbohydrate and ash, in chemical constants of the fat and physical properties.

S. M. A. CORPORATION • 8100 MCCORMICK BOULEVARD • CHICAGO, ILLINOIS

mental work is necessary before the clinical application of this product can be adequately defined. Moreover, recently the potency of chorionic gonadotropin has been greatly increased and as such is worthy of further clinical investigation.

CHART 1
Commercial Preparations of Gonadotropic Hormones
Used in This Study

GROUP	SOURCE	PREPARATION
1)Chorionic gonadotropin	human pregnancy urine	Pranturon (Schering) Korotrin (Winthrop) Antuitrin-S (Parke Davis)
2)Equine gonadotropin	pregnant mares' serum	Gonadin (Cutter) Anteron (Schering) Gonadogen (Upjohn)
3)Anterior pituitary gonadotropin	extracts of anterior pituitary of sheep or cattle	Gonadotropic Factor (Armour) Preloban* (Winthrop) Prephysin (Chappel)

*—not marketed

The accompanying Chart 1 tabulates the various gonadotropic preparations used in this particular study. It is an established fact that the various groups of gonadotropins elicit different responses in laboratory animals. Since these preparations are offered for human consumption, it is the purpose of this paper to record some of our observations on their influence on the human ovary as well as evaluate certain clinical results.

Chart 2 tabulates the findings in eight representative cases selected from a group of 24 patients who received gonadotropin medication prior to laparotomy. The type of menstrual cycle, the relationship of medication to time of cycle, the gross appearance of the ovaries at laparotomy, histologic examination of ovarian and endometrial biopsies, and the follow-up of the patients are recorded. A gonadotropic preparation for human use, in order to merit its name, must be capable of inducing characteristic changes of a stimulating nature in human gonads. If it may be shown that such are its properties, then, in order to evaluate its therapeutic propensities, it also must be shown that the subnormal or the improperly functioning human ovary is similarly stimulated.

There can be no doubt that chorionic gonadotropin, in sufficiently large doses, may in a measure produce in the human ovary changes comparable to those wrought by anterior pituitary gonadotropins or pregnant mares' serum. The follicle stimulating properties of the various gonadotropic hormones are apparent (Fig. 1). It is difficult to gauge

CHART 2
The Effect of the Various Gonadotropins on the Human Ovary
Tabulation of 8 representative cases selected from a group of 24

No.	Age	Menstrual Cycle	Gonadotropin Medication	Date in Cycle	Date of Laparotomy	Special Points in Gross Appearance of Ovaries	Histologic Study of Ovarian Biopsies	Endometrial Biopsy	Follow-Up for 4-7 Months After Operation
1.	25	regular	3,000 I. u. Antrophysin	9-11 day	13th day	Old corpus luteum; full blown corpus luteum.	a, b, d, e	E-Ps	menses regular
2.	34	regular	4,500 units Pranturon	4-7 day	9th day	Several clear domed cysts; one old cyst.	b (old collagenized follicular cyst)	E	menses regular
3.	16	regular	175 I. u. Preloban	9-10 day	12th day	Many hemorrhagic cysts. Many domed cysts, some hemorrhagic; ovaries large.	a, b, c, e.	E	menses regular
4.	20	regular	10cc. Gonadotropic Factor	4-7 day	8th day	Several small domed cysts.	a, b, c, e.		menses regular
5.	19	regular	90 units Gonadogen	3-5 day	5th day	Many small hemorrhagic cysts; one hemorrhagic corpus luteum.	a, b, c, d, c.	E	menses regular
6.	17	irregular q. 2 mos.	1,500 units Anteron	22-24 day	27th day	Several small, clear cysts.	b, e.	E	
7.	16	irregular q. 7-8 mos.	1,400 units Gonadin	281-85 day	287th day	Several bluish domed cysts; increased vascularity; free sanguinous fluid in peritoneal cavity; recently ruptured follicle.	a, b, c.	E	Nov. 16-18; Dec. 9-12 Jan. 20-24, 27-30, Feb. 20-28.
8.	19	regular	1,400 units Gonadin	4-6 day	10th day		c, d.	E	menses regular

(a) Stimulated follicular cysts (b) Luteinizing follicular cysts (c) Atretic follicles (d) Old corpora lutea (e) New corpora lutea
E=Persistent estrogenic E-Ps=Estrogenic to early presecretory

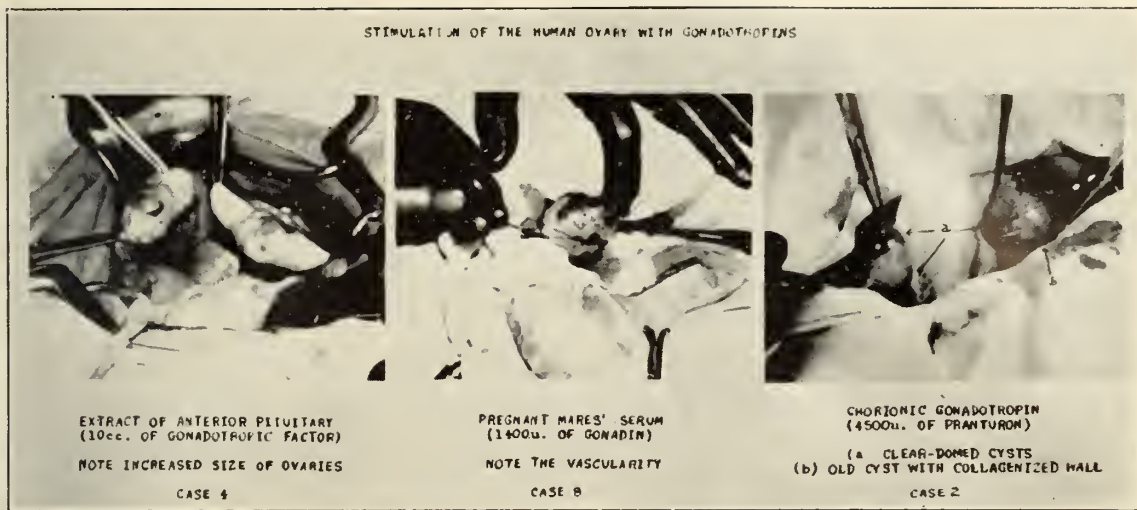


Fig. 1. Stimulation of the human ovary with gonadotropins.

the dosage in individual cases. Small doses (like that used in previous years for chorionic gonadotropin) have proved impotent. Large doses may produce follicle growth, or marked congestion with peri- and intrafollicular hemorrhage; and then again, the follicular stimulation may culminate in cystic atretic follicles. The luteinizing properties

of these extracts are difficult to evaluate. The decided influence on the interstitial cells of the ovary, i.e., the cells of the theca interna, is manifested by hypertrophy and vacuolization with lipid deposition (Fig. 2). Whether lipid deposition is synonymous with luteinization is questionable for such changes have not been accompanied by comparable changes in the endometrium. An analogy may be drawn to the deposition of lipoids in the stroma immediately adjacent focal nests of granulosa cells in granulosa cell tumors.⁵ Here, too, the endometrium is usually estrogenic. The endometrium, it is thought, accurately mirrors ovarian activity.

This concept may need revision, for our studies of urinary pregnandiol excretion (to be published at a later date) seem to indicate that some progesterone utilization may be

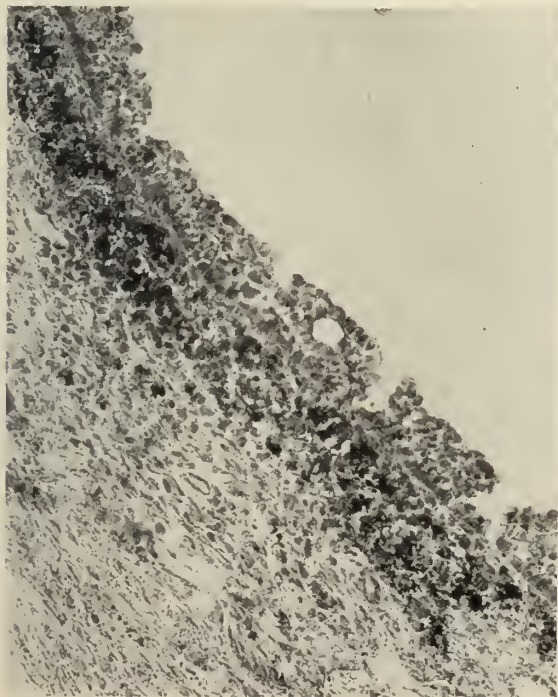


Fig. 2. Sudan III-hematoxylin stained frozen section. Note the lipid deposition (photographs black) in the theca interna. Eighth day of normal cycle following 10 cc. of Gonadotropic Factor (Armour). (Case 4).

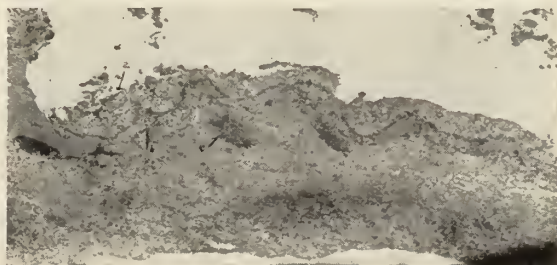


Fig. 3. Luteinizing follicular cyst. Note hypertrophy and vacuolization of granulosa cells (a) and theca cells (b) and the increased perifollicular vascularity (c). Ninth day of regular cycle, following 4,500 u. of Pranturon (Schering). (Case 2).

5. Greenblatt, R. B.; Greenhill, J. P., and Brown, W. R.: *Am. J. Obst. and Gynec.* 37: 939, 1939.

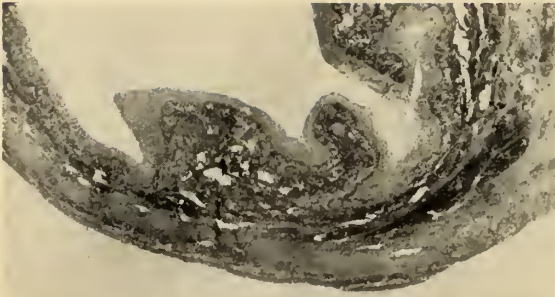


Fig. 4. Marked congestion and perifollicular hemorrhage (a) probably due to overdosage with pregnant mares' serum. (1500 u. of Anteron-Schering). (Case 6).

present in spite of a persistent estrogenic or perhaps refractory type of endometrium. Luteinized follicular cysts are frequently observed (Fig. 3). Overdosage may produce marked congestion and perifollicular hemorrhage (Fig. 4). Corpus luteum formation which follows the orderly maturation of the stimulated follicle usually indicates ovulation. The point of rupture may be demonstrated microscopically (Fig. 5). However, corpus luteum formation does not necessarily imply ovulation. The corpus luteum may be formed away from the peri-

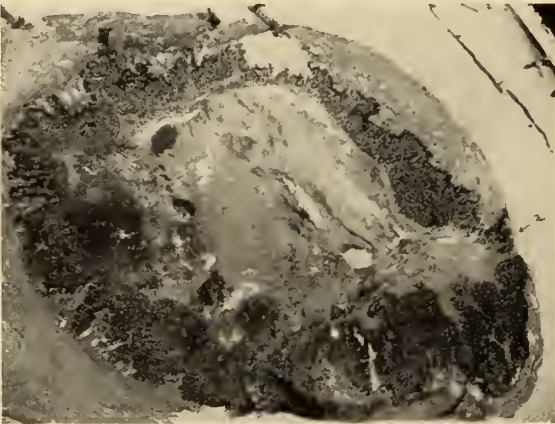


Fig. 5. Sudan III-hematoxylin stained frozen section. Note rupture point (a) in a fresh corpus luteum. Eighth day of regular cycle following 10 cc. Gonadotropic Factor (Armour). (Case 4).

phery, or may be so rapidly produced as to imprison the ovum. This is frequently seen in the rabbit ovary following gonadotropic stimulation and has been observed in the human by Hamblen and Ross⁶ following

6. Hamblen, E. C., and Ross, R. A.: *Am. J. Obst. and Gynec.* 31: 14, 1936.

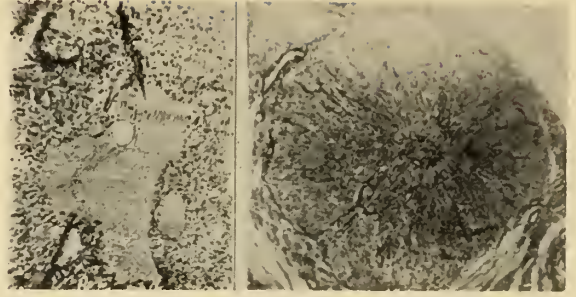


Fig. 6. Imprisoned ova in the corpus luteum of the human and rabbit ovary.

(a) in a human (courtesy of Hamblen and Ross) following large doses of chorionic gonadotropin.

(b) in a rabbit following Preloban (Winthrop) administration.

massive doses of chorionic gonadotropin (Fig. 6).

The question arises as to the production of artificial ovulation in humans with gonadotropins. Its importance in anovular sterility is far reaching. Some reports have indicated recently that ovulation may be induced in women by adequate administration of equine gonadotropin, although the published results to date are equivocal (Reynolds).⁷

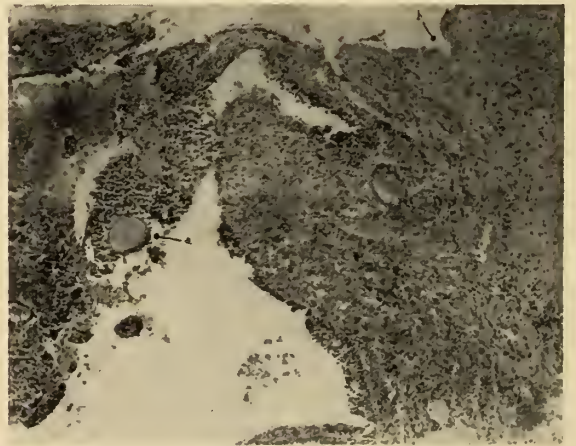


Fig. 7. Ovulation. Note an apparently healthy ovum about to be washed out from the partially collapsed follicle. Note the dehiscence of the capsular part of the ovary above the ovum (a), ninth and tenth days of a normal cycle, following administration of 1400 u. of Gonadin (Cutter). That pregnant mares' serum may profoundly influence the human ovary is further evidenced by the tag of ovarian tissue (b), which has undergone decidua-like change—a phenomenon occasionally seen in pregnancy.

If ovulation does result from such a stim-

7. Reynolds, S. R. M.: *Am. J. Surg.* 48: 175, 1940.

ulation then the evidence must be produced. In such cases the recovery of the human tubal ova by the ingenious method of Allen, Pratt, Newell and Bland⁸ would be the *sine qua non* of ovulation. We have been fortunate in observing histologically an apparently healthy ovum caught several minutes prior to being washed out of an early ruptured follicle, on the ninth or tenth day of a normal cycle, following the use of pregnant mares' serum (Fig. 7). Probably the therapy merely precipitated ovulation that was going to occur. However, if such evidence of ovulation could be demonstrated with some regularity in patients with ovarian dysfunction, then the utility of such gonadotropins could no longer be doubted.

Further analysis of Chart 2 indicates that neither in the patients with regular menstrual cycles nor those with irregular cycles was it possible to produce a secretory endometrium. One of the patients who had functional amenorrhea and bled at intervals of 7-10 months menstruated regularly after gonadotropic stimulation and ovarian biopsy. It is of further interest that in the ovarian biopsy in this case no evidence of past or present corpora lutea was found. The evidently good results in this particular case should not be entirely attributed to gonadotropic hormones for we have had regular

menses to follow a prolonged interval of amenorrhea after partial decapsulation of the ovaries or ovarian biopsy. This has been our experience in three cases who did not receive any other medication. And lastly, the analysis furnishes evidence that no real immediate damage to the ovaries resulted from the fairly massive course of gonadotropic medication since subsequent menstrual function was not disturbed in any one of the patients.

THE CLINICAL APPLICATION OF GONADOTROPIC HORMONES IN FEMALE ENDOCRINE DISORDERS

The experimental data herein presented may seem unimportant and academic to the clinician but they are fundamental to the understanding of the gonadotropins. The clinician is interested in the manner by which therapy may be applied, in success and not in failure. It must ever be kept in mind that success is so frequently coincidental. The results of our experience with its clinical application are shrouded in a doubt. True analytical successes are outnumbered by failures. However, we feel that the gonadotropins, properly administered, alone or in sequence to other gynecogens may yet prove of inestimable value. Appropriate administration may lead to orderly maturation of graafian follicles, true ovulation and corpus luteum formation. There are, in the following two case reports, rays of hope which gleam through the clouds of futility of gonadotropic medication.

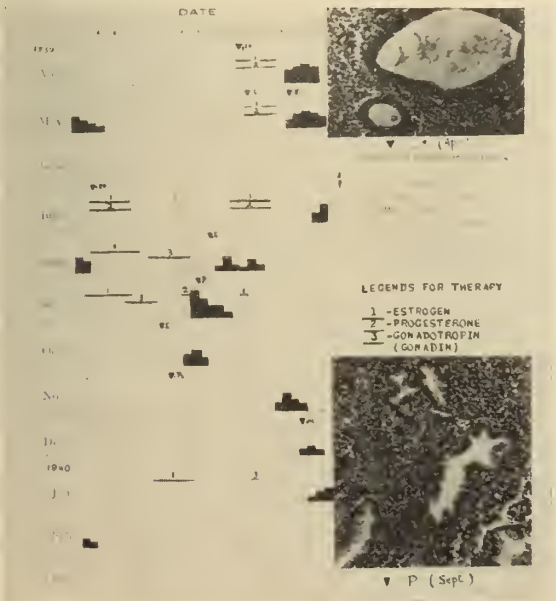


Chart 3

8. Allen, E.; Pratt, J. P.; Newell, Q. U., and Bland, L. J.: Publication 414, Carnegie Inst., Wash., 45, 1930.

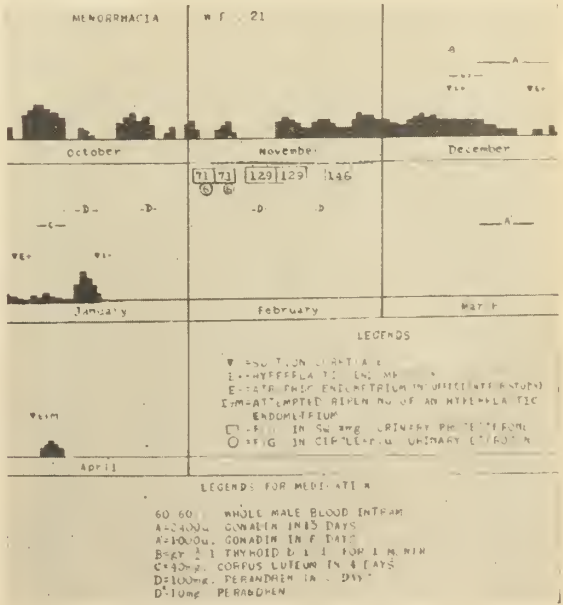


Chart 4

CASE REPORTS

Case 1. A young college student, age 19, was referred to one of us because of functional amenorrhea. She had been under treatment by various physicians for several years and received thyroid and antuitrin S for a considerable period. Such gunshot mixtures as "anterior pituitary liquid with corpus luteum" were then administered and finally a course of whole anterior pituitary, orally, and extracts of the anterior pituitary, parenterally. Under such a regimen of medication the interval between the catamenia lengthened from 3 to 9 months. The intensity of headaches, lassitude, nervousness, and her inferiority complex were heightened considerably during this period, so that she had to withdraw from her scholastic work. An analysis of Chart 3 will indicate that with substitutional therapy (estrogens and progestogens) menstrual bleeding could be induced with fair regularity. Bleeding, however, occurred repeatedly from a persistent estrogenic endometrium. It is worthy of note that the well being of the patient and her psychologic readjustment were almost immediate.

When pregnant mares' serum followed a preparatory course of estrogens, a progestational type of endometrium was finally obtained (September), suggesting that ovulation may have occurred. Such a result is encouraging, particularly when it is noted that bleeding appeared spontaneously in the three succeeding months without therapy. Suction curettage performed during each of the three months revealed that on two occasions the endometrium had matured beyond the proliferative phase.

Conclusions as to the therapy of sterility due to failure of ovulation may be drawn from the experience gained in this case study. It is apparent that proper employment of equine gonadotropins may result in what at least appears to be temporary ovulation. The administration of estrogenic hormone previous to equine gonadotropin had also been found useful by Hawkinson.⁹ This procedure seems rational to us. The administration of estrogens permits the ovaries to rest and thus allows for their better receptiveness when stimulated by pregnant mares' serum. Needless to say we condemn the simultaneous use of gonadotropins and estrogenic substances.

Case 2. A white female, age 23, had experienced bouts of hypermenorrhea and metrorrhagia for several years. Her physician applied a small dose of radium after repeated curettages failed to bring about cessation of bleeding. After several months of amenorrhea there was a return of the menometrorrhagia. When seen by one of us, it was found that she was bleeding from a markedly hyperplastic endometrium. Ergot, thyroid, gonadotropin medication and whole male blood intramuscularly failed to arrest the bleeding. Testosterone propionate was finally used with prompt results and was continued afterwards to insure against a recurrence of menometrorrhagia (Chart 4).

After a period of amenorrhea it was decided to attempt to correct the cycle and pregnant

mares' serum was administered. It is interesting to note that suction curettage performed one week later revealed an endometrium which was partly hyperplastic, while in other areas evidence of presecretory changes were definite. A normal 5-day menses followed one day after the suction curettage which may or may not have been initiated by the trauma. Here again it is evident that, though gonadotropin medication failed to arrest the excessive bleeding, it seemed to be able in part to influence the endometrium when administered during the interval of amenorrhea.

SUMMARY

1. Pregnant mares' serum, extracts of the anterior pituitary and the chorionic gonadotropins are capable of producing changes in the human ovary. The reactions may be twofold:

- (1) Desirable:
 - (a) increase in vascularity
 - (b) follicular growth
 - (c) hyperplasia of granulosa cells
 - (d) luteinization of the granulosa cells and cells of the theca interna
 - (e) ovulation
 - (f) corpus luteum formation
- (2) Undesirable:
 - (a) peri- and intrafollicular hemorrhage
 - (b) cytolysis of the granulosa cells
 - (c) atretic follicles
 - (d) abortive corpora lutea
 - (e) imprisonment and degenerative changes of the ova
 - (f) hypertrophy and vacuolization of the cells of the theca interna with lipid deposition

The reactions are not predictable, and concurrent with the changes characteristic of one group there may be those of the other, one or the other predominating.

2. Following gonadotropic medication there is usually a lag or a refractoriness of the endometrium. In spite of the presence of several fresh corpora lutea in the ovaries, the endometrium is usually estrogenic in type. It must be stressed that corpus luteum formation is not necessarily synonymous with true ovulation.

3. In general we have found the clinical application of gonadotropins rather disappointing. Definite evidence, however, exists that in certain types of ovarian dysfunction, gonadotropins used in sequence to estrogenic therapy may yield satisfactory though temporary results.

4. Much more experimental work and clinical investigation are necessary by men with facilities for critical study before the definite indications, the choice of gonado-

9. Hawkinson, L. F., In discussion of paper by Hall, G. J.: *California and West. Med.* 51: 10, 1939.

tropin medication or the ideal mode of administration may be established. Analytical studies indicate that the gonadotropins may hold the key to the solution for the treatment of ovarian imbalance. It may well be that by the proper administration of gonadotropins, orderly maturation of follicles with resultant true ovulation and corpus luteum formation may occur. In the meantime, until more is learned concerning the use of the gonadotropins, we concur with the exhortation found in the editorial of the Journal of the American Medical Association,¹⁰ October 24, 1936, that "a large group of physicians should cease their indiscriminate injections of unknown substances into unsuspecting patients."

INTESTINAL OBSTRUCTION

By

W. C. KENNEDY, M. D.

Diplomate American Board of Surgery
Florence, Ala.

Intestinal obstruction or ileus is the term applied to the clinical syndrome caused by obstruction of the intestinal tract. Since the type of obstruction and the level of the obstruction give different symptoms, they will be considered separately; and I shall deal with obstruction of the small bowel only.

Inasmuch as acute mechanical obstruction is a great abdominal emergency in which early surgical intervention is the *only* life saving measure, early recognition is imperative.

DIAGNOSIS

The pain, referred at first to the mid abdomen around the umbilicus, is likely to be intermittent and cramp-like. Acuteness of onset and severity of pain are dependent upon the rapidity with which the obstruction becomes complete. As time goes on, it loses its spasmodic character and becomes duller and more generalized.

Vomiting comes on early and is progressive in character—stomach contents at first, then bile, followed by progressively more watery and voluminous vomitus, changing to typical fecal contents. The higher the obstruction the earlier the fecal characteristics will manifest themselves. Late vomiting becomes an effortless spilling out of

large amounts of this type of fluid. Constipation will, of course, develop but only after the bowel below the site of obstruction has been completely evacuated. If this is borne in mind it will not confuse the issue.

History of previous laparotomies or inflammatory conditions in the abdomen, such as salpingitis, is often of aid in making a diagnosis.

Physical examination early in the disease is sometimes disappointing since distention, rigidity and spasm make their appearance late; and it should be borne in mind that visible abdominal distention is usually caused by distention of the colon. Visible peristalsis, if present, is a valuable sign but its visibility is largely dependent on the thickness of the abdominal walls. All hernial orifices should be examined, as well as scars from previous laparotomies. Auscultation is important since the metallic tinkle audible in obstruction is quite different from normal bowel sounds, and the distinction from the quiet abdomen of generalized peritonitis is marked.

In x-raying the patient one must be content with a flat plate. Barium is not tolerated and is an extra hazard. The x-ray studies will often show distended loops. The plate should be taken with the patient erect so that the typical stepladder effect of fluid and gas can be demonstrated, if present.

Temperature is of no diagnostic aid. Urinalysis is inconclusive, although there may be a trace of albumin. Blood studies are inconclusive. There is evidence of dehydration. The leucocyte count is normal, or decreased until rupture or gangrene intervenes. The patient with acute intestinal obstruction is now threatened with two great dangers, namely, dehydration and toxemia.

It has been estimated that the volume of fluid secreted into the upper intestinal tract via the mucosa, liver and pancreas in twenty-four hours is equal to the total volume of blood and lymph in the body. This normally is largely reabsorbed in the lower bowel. With obstruction, one can see how a matter of a very few hours can rapidly deplete such a patient. This fluid is very rich in sodium chloride and hydrochloric acid and this depletion, as well as the fluid loss, is evidenced by (1) a lowering of blood chlorides, (2) a rise in the carbon dioxide combining power of the blood as a result of

10. Editorial, J. A. M. A., 107: 1390-1391, 1936.

loss of the negative chlorine ion and (3) a reduction in fixed base (Na^+).

Toxemia may make its appearance at any time in the course of small bowel obstruction. When fully established even immediate relief of the obstruction does not halt its fatal progress. Very little is understood regarding the nature of this toxemia although experimental evidence indicates that it is caused by the absorption of some toxic element, probably a proteose, and that this only occurs when the intestinal wall is grossly damaged. This damage is caused by the actual strangulation of the gut at the site of obstruction, furthered by distention which shuts off the capillaries of the gut wall causing further patches of gangrene and necrosis.

TREATMENT

Prompt surgical intervention must be resorted to. Release the obstruction and get out. The old dictum, "Get in quickly and out quicker," has here its most urgent application. These patients, in spite of their seemingly good condition, will not stand prolonged surgical procedures. Beware of evisceration and gut handling. They should be operated on under local or spinal anesthesia, preferably the latter which gives the smoothest field to work in. The patient should be well prepared in advance, though rapidly, with infusions of saline solution as both the sodium and chlorine ions are grossly depleted. Furthermore, there is tremendous water loss. Recent reports are to the effect that injections of adrenal cortex are of some assistance. Postoperatively, Wangenstein suction should be used, sodium chloride infusions given, and morphine administered for its tonic effect on the bowel.

Paralytic ileus or obstruction following an abdominal operative procedure is to all intents and purposes the same as mechanical obstruction. The diagnostic acumen of the surgeon may be taxed to differentiate between the two. The twin dangers of dehydration and toxemia are the same; and the treatment is usually the same, except that immediate operation is not indicated. If performed it often aggravates the condition or promptly kills the patient. It is here that Wangenstein routine, i. e., constant suction through a Levine tube, is often a life saving procedure. Usually, decompression can be attained by these methods and that

is all that an ileostomy or jejunostomy can accomplish. The latter should be considered only after the tube has failed. Again, the maintenance of an adequate fluid balance is of greatest importance. At least 3000 cc. of fluid must be supplied, either by infusion or hypodermoclysis. Given in the form of normal saline this adequately supplies the sodium and chlorine ions that have been depleted and without which life cannot be supported. A word only as to an observation that has not appeared prominently in the literature but is of more than academic interest: A patient with paralytic ileus, not responsive to any and all treatment, is taken to the operating room, prepared for laparotomy, and spinal anesthetic administered, when, without warning, there is a copious bowel movement with tremendous gas evacuations; and the patient who was moribund a few moments before is on the road to recovery. This dramatic occurrence has happened to me personally eight times. I must admit, however, that very recently a paralytic ileus case I had, desperately ill, was given a spinal in her bed and the dramatic did not occur, but twenty-four hours later, after diligent pursuance of the Wangenstein technique, a spontaneous evacuation of stool and gas occurred. A final word would be that if mechanical obstruction is present do an immediate laparotomy. If paralytic obstruction is present, the longer the surgeon can restrain himself and trust to suction for decompression, the more favorable will be the outcome.

THE PHILOSOPHY OF SOUND PUBLIC HEALTH ORGANISATION*

By

J. N. BAKER, M. D.
Montgomery, Ala.

As a representative of the state health officer group, and as the official health executive of the State of Alabama, I am happy to be given the privilege of speaking to you who have been charged with the responsibility of guiding the destiny of millions of our urban dwellers. That this task does not rest lightly upon your shoulders is evidenced by the serious deliberations and exchange of

*Address delivered before the United States Conference of Mayors at its annual meeting held in Birmingham, Alabama, March 8, 1940.

views in which you are now engaged. Rest assured that this serious deliberative approach on your part, in an effort to render a more efficient service in the many and increasingly complex fields over which you exercise control, will go neither unnoticed nor unrewarded. One of the more difficult responsibilities, and certainly one of the most important, with which any lay administrator has to deal is that of the protection of the public health of his own constituency. The rapid shift, in quite recent years, of the nation's population from rural areas to urban centres has created health, housing and sanitary problems of the first magnitude which are now challenging the best efforts alike of lay and health executives. It is heartening, indeed, to a state health executive to witness the deep concern which this group is manifesting in the important matter of public health protection; but it is even more heartening to observe the sound approach being made by you in an effort to develop enduring administrative mechanisms to attain this end.

It may interest you to know that, for several years, your speaker has had the privilege of serving as chairman of the joint committee representing the State and Territorial Health Officers of the United States and the United States Public Health Service for the training of public health personnel and for the establishment of standards for the various professional and technical workers desiring to enter the public health field; further, that it was with this committee that representatives of this mayoralty group met two years ago in Washington to counsel together, from which meeting sprang your National Health Officer's Qualifying Board with its present personnel; members, all, distinguished and learned in the several fields of public health. The creation of this board, while purely advisory in nature, sprang from an appreciation of the need on your part as laymen for expert, unbiased professional guidance in a particular and difficult technical field, and even now looms large, as it will in years to come, as one of the important mileposts in the forward march of administrative efficiency.

Your President, Mayor LaGuardia, in commenting upon the creation of this board, paid to public health workers a splendid, and it is hoped, a deserved, compliment when he said, "We have taken public health first

because we have had the cooperation of the public health profession itself. . . . If every city will adopt the recommendations made by this committee, we can avoid having the so-called 'pill-doctor' or the family physician appointed to the important office of commissioner of health." In short, and in substance, the Mayor of the world's largest city says to you, "Away with politics, when so important and so professional a service as the protection of the people's health is concerned." Speaking for the organised professions of medicine and public health, I wholeheartedly subscribe.

Any governmental agency, whether federal, state, county or municipal, when seeking to contrive new or improved administrative devices to meet changing conditions should ever bear in mind two factors:

First, existing mechanisms; the reasons for their existence and the logic, traditions, customs and forces which called them into being; and, second, the need for utilisation of all expert, scientific skills available, when coping with highly technical or professional problems.

These postulates seem almost axiomatic, yet are frequently ignored. Modification or alterations in existing mechanisms whose basic structure has been shown to be sound is, as a rule, much to be preferred to a totally new and untried pattern whose workability may well prove disastrous because of varying local conditions and circumstances. In the hasty and fitful development of governance mechanisms through this vast country, we now have a complex medley of patterns bristling with inequalities, incoherences, improvisations and obscurities, many of which are badly in need of renovation. Because of these variants, a garment cut to fit an Eastern State or city, may poorly, or not at all, fit a Midwestern or Southern State or city.

The free interchange of views in which the members of this group are now indulging should prove quite helpful to many of you in more satisfactorily solving some of your own perplexing local problems. This is the American, democratic way of approach; which, it might be added, is something quite different from wholesale adoption of inflexible edicts to govern action, regardless of local custom and tradition.

The second postulate—that of bringing to bear on a highly technical problem all possible professional knowledge—seems partic-

ularly pertinent when discussing the administrative problems of public health. One must recognise that, while in the practical administration of modern systems of public health, other scientific skills must be freely drawn upon and utilised—particularly those of engineering and nursing—the roots from which all such performances stem are those of scientific medicine. No modern public health structure can endure which does not rest upon a solid bedrock of medical discovery and research. Public health, therefore, is a specialty of medicine requiring, for its supervision, guidance and administration, persons trained in this particular field. The soundness of this principle is scarce open to question; and yet it is but little short of tragic the numberless times that failure to observe this principle has been shown by important appointing authorities at all governmental levels—state, county and municipal—and almost invariably to the detriment of public health progress. The worst offenses in this regard have been perpetrated, regrettably, at the state level, where the possibility of damage is concededly great. Administrators, in whose hands rests the responsibility for public health protection, should quickly learn two things which the public health profession has long known and advocated. These are: (a) removal of official health from a political atmosphere; and (b) security of tenure, from top to bottom, based solely on efficiency, loyalty and proper conduct.

No single factor is likely to prove more disrupting to carefully prepared public health programs than frequent shifts at the top, and all down the line, occasioned by changes of political administration. The public health profession appreciates the acute need for properly and adequately trained personnel to meet the growing demands of society in this field and is moving forward as rapidly as possible to supply them. In return, may it not be asked that a greater degree of stability and security be provided for this professional group than that now afforded through the changing and fickle whims of politics? Because of an aroused public conscience as to the value of scientific right-living, health statecraft is fast becoming one of the major concerns of government. Consequently, no more important problem confronts us today than that of formulating broad-based, sound administrative mechanisms for health and sanitation at

all governmental levels and of moulding and integrating these into our settled forms of American representative government. In casting these moulds, sight must not be lost of the following points:

Each state, as a sovereign power and through its constitution, is given the responsibility and authority to safeguard the health of its own citizens; and, through legislative enactment, attempts to set up, broadly, the machinery for accomplishing this purpose, both on a state-wide basis and at the level of its political subdivisions. Because of these variegated state patterns and the possible limitations or inhibitions imposed by state statutes, we have one of the reasons for a lack of a greater degree of uniformity in organisational structure and also of closer-knit integration between the central and local health departments existing within the state. This need for a closer drawing together and interlocking of all of the health machinery within a state, while a most important one, cannot here be dwelt upon. However, it seems now particularly necessary in view of federal financial participation with states for health purposes. And yet, despite these variants in structure, there exists, almost universally, both at state and local levels, a framework into which can be woven the principles of sound health organisation now being discussed.

Such a framework is, basically, composed of two parts:

(a) Board of health, or public health council;

(b) Executive health officer.

A board of health, public health council or some like body should exist at all levels—state and local—unless prohibited by state statute. For example, in Alabama, there exist only state and county boards of health, all municipalities within a county coming under the direct supervision of the county health officer and thus making for simpler and more effective administration. Such a board, if painstakingly and properly chosen, should constitute the keystone of any health structure, and to it should be delegated sufficient voice, responsibility and authority necessary to attain an efficient and non-political health organisation. Bearing in mind the professional and technical nature of the service to be rendered, such board should have liberal—preferably a majority—representation from the medical profes-

sion; such selections to be made either by the interested organised medical groups themselves or, at least, upon their recommendations made to the proper appointing officer. Experience has shown not only that the medical profession welcomes the opportunity for active participation in a field for which, because of training and experience, doctors are particularly fitted, but also that through such participation, their interest and cooperation in all public health activities become tremendously whetted. Experience also points that boards of health, strongly buttressed by properly chosen, scientifically trained medical men, offer the best safeguard against the dangers of incompetent or political appointees. The exact duties and functions of such boards, as well as their size and methods of selection, may and do vary in accordance with local conditions; but, in every instance, the principles above stated should be adhered to.

In New York State, for example, we have a Public Health Council, consisting of the Commissioner of Health and eight members, six of whom are physicians of outstanding and recognised ability, all appointed by the Governor with the advice of the Senate. The functions of this board are largely advisory and legislative. In the City of New York, we have a Board of Health composed of the Commissioner of Health and four other members, three of whom are physicians, eminent in their profession and appointed by the Mayor. This board serves in an important legislative way, having complete control of the Sanitary Code of New York City, and also serves in an advisory capacity to the Commissioner of Health.

In Mississippi, the State Board of Health consists of ten members—nine physicians and one dentist nominated to the Governor from the two professions, from which nominations the Governor makes the appointments. From outside its own number the State Board of Health elects the tenth member to serve as State Health Officer and as Secretary of the Board. Here should be noted the responsibility and authority placed upon the medical profession. In contrast to this, may be cited Illinois, having a Board of Public Health Advisers, composed of five members appointed by the Governor and with no specified professional qualifications for any of its members.

In Alabama, since 1875, the direction and

control of all public health activities have, by law, been entrusted to the organised medical profession—The Medical Association of the State of Alabama—which constitutes the State Board of Health. It functions in this legal capacity through a State Committee of Public Health, composed of ten of its own members, elected by it; which committee, in turn, elects the State Health officer subject to ratification by the Association. The Governor is ex-officio a member and chairman of the State Committee of Public Health. In each county there exists a county board of health, elected by the county medical society, with the chairman of the appropriating body of the county an ex-officio member of the board. County health officers are elected by these boards, subject to the approval of the State Health Officer. This unique health structure, it will be observed, from foundation to dome, rests squarely upon the medical profession and embraces, to a rare degree, many principles recognised to be sound. In this modern day and time a replica of such a structure would hardly be attainable, even if it were desired. Nonetheless, the system, a living monument to the loyalty and devotion of the medical profession to the cause of public health, has performed a service over an unbroken period of sixty-five years for which the record may be allowed to speak. Although complete duplication is probably not possible, wisdom would prompt the preservation and incorporation into modern governance of such features as experience has shown to be workable and good.

These examples are cited largely to show the wide variations existing in state health structures; equally great variations likely exist in local health systems. A study of the health machinery prevalent throughout this country, regardless of the level, reveals a pronounced leaning toward this structure which incorporates the principle of a board of health with an administrative executive in charge. This would appear to be *prima facie* evidence that the *system* itself is sound, even though in practice the results, at present attained, might be far from satisfying. A search for the causes of failure usually reveals a lack of appreciation, or of application, on the part of the responsible administrator, of the basic principles upon which success depends. A politically minded executive, be he governor, mayor, or what not,

bent solely upon repaying personal obligation at the taxpayer's expense, need hardly expect efficient performance, if he attempts to inject such strategy into a health department. In actual fact, here is where much of the trouble lies; it is not with the system itself, but with its method of application. If to boards of health, carefully and properly selected, vested with the needed authority and removed from political entanglements, were left the direction and control of health affairs, including the selection or recommendation of the executive officer of health, far fewer failures would occur.

The executive health officer of such a board—assuming that he had the professional training necessary for his post—finds himself in an atmosphere conducive to the best performance of which he is capable. He should be given the administrative responsibility of the department of which he is the head, without undue interference or pressure from any source. He should counsel frequently not only with this board but also with the duly elected officials and boards to which he is attached and which are concerned with the spending of the tax dollar, such as the mayor, county commissioners and the like. Such contacts can and should be made in a spirit prompted by a service to be rendered through an important department of government and not for the purpose of courting political favour. Official health departments constitute one function of government which the people innately abhor having plunged into politics and one upon which astute administrators are gradually learning the un wisdom of bringing undue political pressure to bear.

The health officer himself, through his own leadership and the conduct of his department, can and should contribute much toward the creation of such a non-political atmosphere so necessary for efficient performance of duty.

And finally, this though should be stressed:

As the public health field broadens and deepens, as a consequence of modern scientific discovery and in response to the demands of society, the need will become increasingly great for the services both of the general practitioner and of the specialist in medicine. Their knowledge and skills will be a necessary part of any expanded program to be sponsored and administered

through governmental agencies which may seek to bring under mastery such crippling and death-dealing foes as the venereal diseases, tuberculosis, the pneumonias and cancer. It would appear that the logical place for the administrative features of such activities in our present system of governance would be the already existing departments of health; but for them to be in position to assume this tremendously important responsibility and to be able to render to humanity the high type of scientific service that is in keeping with American medicine, their administrative mechanisms must be not only expanded and strengthened but also lifted to a plane removed from political interference or domination.

Because of the interest and leadership now being manifested by this important group in the improvement of public health services, the hope is expressed that this desire will more quickly permeate other spheres of government, and with happy and enduring results.

DENTAL CARIES IN CHILDREN RESPONSIBILITY OF DENTIST AND PHYSICIAN

By

JAMES F. ALISON, M. D., F. A. C. P.
Selma, Ala.

The incidence of dental defects in children has been variously estimated as being from 75 to 90 per cent. Haden of Cleveland surveyed the records of thousands of school children in the large cities and arrived at the conclusion that 90 to 95 per cent showed general defects. Any condition affecting 95 per cent of children is of considerable importance, especially in view of the possible effects.

Gingivitis, stomatitis, alveolar abscess, osteomyelitis, cellulitis and adenitis are the principal local effects. Arthritis, acute rheumatic fever and rheumatic heart disease are the most feared results of dental infection. Secondary anemia, anorexia and particularly malnutrition may be traced to dental defects. Children with inadequate chewing surfaces or with cavities which are painful will omit very necessary articles of diet because they either cannot masticate them or the chewing causes pain.

As yet no satisfactory theory of the etiology of caries has been presented. The most

generally accepted theory is that advanced by Koehne after an exhaustive search of the literature. It is: "The food intake affects the teeth chiefly by making conditions possible or impossible for acid-producing micro-organisms to thrive and elaborate an acid which is capable of attacking the tooth surfaces."

Many different workers have presented evidence that vitamin and dietary deficiency play an important role in the production of caries.

Recently a report by Dean and his co-workers covering a survey of a number of states points out that there is an inverse relationship between endemic dental fluorosis and dental caries, the severity of the dental caries in general being lower in areas where the mottled enamel occurs than in normal areas in the same states. The same workers carried out a well planned and controlled investigation of the prevalence of dental caries in white children, age 12-14, in four cities in Illinois. The water supply of the cities differed in that in two the water contained 1.8 parts per million of fluorides while the other two had only 0.2 parts per million. The caries rate in cities supplied with water almost free of fluorides was two to three times greater than the rate observed in the other communities. An even greater difference was noted with respect to the interproximal or smooth surface caries. It was found that interproximal caries was sixteen times more prevalent in the groups in the cities where the water was low in fluorides.

Cox of Pittsburgh recently showed that fluorine added to the diet of pregnant rats resulted in increased caries resistance of the offspring. In his communication he quotes from an address published in the *Lancet* in 1892, in which the writer advises a supply of fluorine for childbearing women "to fortify the teeth of the next generation."

In discussing these reports, Mills of Cincinnati cautions that some other water constituent than the fluorides might be the caries-inhibiting agent. In 1937 he called attention to the fact that the incidence of caries was inversely related to the hardness of the drinking water.

An editorial in the *Journal of the American Medical Association* observes that "in the light of these reports the possibilities of partially controlling dental caries through

the public water supply becomes of more than academic interest."

The first step in solving the problem is educating the public through medico-dental advertising—radio talks, addresses to parent-teacher associations and newspaper articles stressing the importance of good teeth and a healthy mouth. The public must be taught that the time to bring the child to the dentist is at the age of two years or less. At the present time the first contact 95 per cent of the children have with the dentist is in the school clinic and that is too late. The physicians must learn to refer the children at this age. This duty is as important as prescribing the proper diet.

In turn, dentists must cooperate with physicians in taking an interest in these patients, insisting that they be returned for observation, giving proper hygienic instructions and, above all, treating the deciduous teeth with the respect they deserve. A cavity in a deciduous tooth is just as worthy of a good filling as that of an adult. An eminent dental authority once said: "To detect cavities and fill them when they are small does something more than limit the decay in the teeth thus treated: it lessens the tendency to decay in other teeth in the same mouth."

May I summarize these remarks briefly as follows:

1. There is an appalling incidence of dental disease in childhood.
2. The possible effects of such disease are far-reaching, not only affecting these children locally but systemically and sometimes terminating fatally.
3. It is generally accepted that adequate diet is of fundamental importance in formation and maintenance of healthy bodies and teeth. Also, that dietary deficiencies or indiscretions make possible the early decay by allowing certain micro-organisms free play in the production of such disease.
4. The problem of prevention of dental caries in children must be approached by the cooperative efforts of the professions in educating the public as to the importance of good teeth, the necessity of a well balanced adequate diet and, most of all, the early and continued supervision by trained men of both professions.
5. There is definite need for closer cooperation between the medical and dental professions as we cope with the increasing problems of preventive medicine.

THE JOURNAL

of the

Medical Association of the State of Alabama

Editor-in-Chief

FRED W. WILKERSON Montgomery

Associate Editors

M. Y. DABNEY Birmingham

W. D. PARTLOW Tuscaloosa

J. N. BAKER Montgomery

DOUGLAS L. CANNON Montgomery

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

Office of Publication

519 Dexter Avenue Montgomery, Ala.

Subscription Price \$3.00 Per Year

June 1940

TREATMENT OF RHEUMATOID ARTHRITIS

"Within the past decade serious investigators of arthritis have been unanimous in emphasizing the fact that the foundation for the successful management of chronic arthritis, like that for tuberculosis, is a broad and comprehensive program of treatment. Many allied therapeutic measures, headed by the judicious application of rest, are required. From time to time, nevertheless, newer modes of therapy are brought forth . . ."

The above is part of the opening paragraph of the recently published article by Margolis and Eisenstein¹ dealing with this subject.

The authors queried the 178 members of the American Rheumatism Association and received replies from 111, these replies forming in large part the basis for their conclusions.

The Pittsburgh investigators conclude that "sulfur therapy is both without rationale and without effect." And they further comment that "it is also significant, as the report of the Council on Pharmacy and Chemistry brought out, that none of the leading arthritis clinics which have given sulfur therapy a trial are continuing its use; all have abandoned it."

1. Margolis, H. M., and Eisenstein, V. W.: Some Specific Measures in the Treatment of Rheumatoid Arthritis, J. A. M. A. 114: 1429 (April 13) '40.

We are told that "various reports in medical literature can easily be assembled to support a brief either for or against the value of vaccine therapy in atrophic arthritis. The very number of vaccines for rheumatoid arthritis so highly lauded by their individual sponsors should be sufficient proof, however, that none are specific." The authors' own observations indicate that "the promiscuous injection of vaccine in atrophic arthritis has probably caused more harm than good." They are of the opinion that "vaccines are apparently losing hold. Although their employment results in 'benefit' in a proportion of cases, such results are attributable not to any specific effect of the vaccine but apparently to the psychologic effect of the injection."

The investigators found very few good results reported for fever therapy and these were generally of short duration, relapses being frequent. They stress the dangers of this form of treatment and tell us that "fever therapy is not for the general run of arthritic patients."

Their own results with sulfanilamide were "entirely disappointing" and the questionnaire indicated that the others "were practically unanimous in condemning this drug for the treatment of atrophic arthritis. It is clear that with present methods of administration sulfanilamide has no therapeutic value in this disease."

The use of gold salts finds the investigators more hopeful, for "in Europe, where the treatment of rheumatoid arthritis with gold salts is receiving its most extensive trial, under the auspices of critical observers, the impression is gaining ground that this drug represents a distinct advance in treatment." But gold salts, though promising, are dangerous because of serious toxic reactions, such as liver and renal damage, certain blood dyscrasias and dermatitis.

The problem of arthritis seems destined to be with us for a long time to come. It has been subjected to intensive study during the past ten or fifteen years and our knowledge of it is slowly increasing. In such a situation it behooves practitioners to be both alert and skeptical in regard to any and all of the newer forms of therapy.

Margolis and Eisenstein have indeed done well to assemble such a large amount of data in order that these modes of treatment may be evaluated more accurately. And



SAMUEL A. GORDON
President of the Association
1940-1941

physicians should heed their advice when they remind us that "the fact that rheumatoid arthritis may be a self-limited disease, certainly one subject to spontaneous remissions, further complicates any individual physician's efforts to achieve balanced judgment with regard to the use of new drugs." And their conclusion that "there is no royal road to the successful treatment of arthritis. A well rounded medical management, tempered with sound clinical judgment, must still prevail as the best therapeutic regimen."

THE REPORT OF THE BOARD

The editorial staff desires to direct particular attention to the report of the State Board of Censors submitted to and adopted by the Association at its recent annual session held in Birmingham, and to be found elsewhere in this issue. It is to be remembered that this Board functions in three important capacities: (a) as a State Board of Censors for the Association as a purely scientific body; (b) as a Board of Licensure, passing upon the qualifications and fitness of those seeking to treat diseases of human beings; and (c) as a State Committee of Public Health, having general supervision and control over all health affairs within the State. It must be remembered further that, because of the exceptionally close relationships established by law between the organized medical profession in each county and its county boards of censors, all of the problems considered by the State Board of Censors in each of these spheres become of immediate and direct concern to the entire membership throughout the State.

For these reasons it is hoped that this report will receive the careful study which its importance justifies.

Among the many problems dealt with in this report, the following should have special interest and significance at this time:

1. *Postgraduate Medical Study*

The Board reemphasises this need and the efforts put forth by it and the Association's Committee on Postgraduate Study to expand this activity, and makes an urgent plea to all members for a fuller utilisation of the facilities now placed at their disposal.

2. *Self-Medication and Counter Prescribing*

In this section, the Board deals somewhat

at length with the rather difficult problems of self-medication and counter prescribing, particularly in their abuse in the fields of venereal diseases and barbituric acid compounds. After pointing to the satisfactory results already attained through better cooperation with the pharmaceutical profession and through the educative approach, the Board recommended and the Association approved the creation of a standing Committee on "Physician-Druggist Relationships." Every practicing physician should lend his support to the rapid suppression of the evils growing out of these problems.

3. *Illegal Practitioners*

After pointing out the limitations placed, by law, upon the State Board of Medical Examiners, in the matter of prosecuting illegal practitioners, the Board urges county medical societies when violations of the medical practice act are occurring to report the facts promptly to the State Health Officer who will make appeal to the office of the Attorney General for such legal aid as may seem indicated. The Attorney General has expressed his willingness to make available members of his staff for this purpose.

4. *Secretary-Treasurer of the Association*

Following the death of Dr. J. U. Ray, who had so long served the Association as Treasurer, the Board recommended, and the Association approved, the fusion of the two offices. Dr. Douglas L. Cannon now functions in such dual capacity. In discussing this change consideration was also given to the likely need for an alteration in the present dues being paid into the Association by members and county medical societies as now prescribed in the Constitution. In order to clear the way for proper action by the Association, an amendment to Article XIV of the Constitution was submitted, approved, and will come up for final action at the 1941 session. Members are urged to familiarise themselves with this suggested amendment.

5. *Medical Cooperation with the Farm Security Administration*

In this section the Board reviewed the progress thus far made in this cooperative endeavour and recommended that, during the present year, a critical study and evaluation of the program be made by each county medical society now participating, upon which might be based definite recommendations for future guidance.

6. *Standing Committee on Medical Archives and History*

Because of the valuable work done during the past year by the temporary Committee on Medical Archives and History, the Board recommended and the Association approved the creation of a permanent standing committee for this purpose. Every member should take an interest in the workings of this committee and endeavour to make some contributions to it.

7. *Standing Committee on Accidents and Industrial Hygiene*

Because of the growing importance of health and disease as these relate to industry, the recommendation was made and approved that the activities of the present standing Committee on Fractures and First Aid be broadened so as to include industrial hygiene and that the name be changed to "Accidents and Industrial Hygiene." The expanded scope of this new committee will serve to bring it more closely in line with similar committees now functioning in the American Medical Association and other state organisations.

8. *Legislation*

Under this section the Board briefly epitomised some of the more important legislation, both state and federal, of real concern to the profession. Special emphasis was placed upon the prenuptial examination bill, which is scheduled for final action in the House during the short session to be held in June of this year, with the request that members urge upon their legislativemen the enactment of this important measure. Each member of the Legislature has been furnished a copy of the resolution bearing on this subject and which was unanimously approved by the Association. A word from the members of this Association to their representatives before their return to Montgomery in June should assure the passage of this legislation.

The most important federal legislation is that providing aid for the building of hospitals where needed in rural and distressed areas. The original hospital construction bill—known as the Wagner Bill—has since been extensively amended and strengthened; and from the latest reports from Washington has good chance of becoming law. A brief analysis of this amended bill will be

found in another section of this issue of the Journal.

9. *Reports of Standing Committees*

After briefly directing attention to the important items of these reports, the Board commended these committees for their excellence and for the earnest manner in which these duties had been discharged. Each of these reports is entitled to careful study by the entire membership of the Association.

Part II of this report summarises the work done by the Board as a State Board of Medical Examiners.

Part III of the report is a brief epitome of the manifold activities of the health department, submitted by the Board's executive officer, the State Health Officer. The opening sections of this report serve to give one a clearer concept of the health department's fiscal affairs and more urgent immediate needs; its planning on a long-range scale; the encouraging downward trends in mortality and morbidity statistics and of the special research studies in the field of public health sponsored and conducted by it. There then follow sections briefly outlining the activities and progress made by each bureau or division of the department, through which such activities are conducted.

Let it be repeated that a careful perusal of this complete report should convince the members of the Association of the worthwhileness of its efforts now being put forth in the several spheres of activity for which it is responsible.

Yellow Fever—For more than twenty years the Rockefeller Foundation has been an important factor in the control of yellow fever in a number of South American republics. During this time many contributions relating to the yellow fever problem have been made by medical men associated with this organization. Unfortunately there is no specific treatment for yellow fever. The strategy of the campaign against the disease has been complicated by the fact that yellow fever, as has been known for a number of years, exists in tropical forests in the absence of *Aedes aegypti* mosquitoes. As pointed out by Bauer, this "jungle yellow fever" is ordinarily restricted to lower animals and is only accidentally transmitted to human beings. Nevertheless, persons who do become infected with the disease, which does not differ essentially from *Aedes aegypti* borne yellow fever, many serve as a source of infection for *Aedes aegypti* mosquitoes on entering a community where these insects occur. The disease may then be further spread by the mosquitoes and an epidemic may be initiated.—*Ed., J. A. M. A., June 1, '40.*

THE ASSOCIATION FORUM

(Under this heading will appear, from time to time, as occasion may arise, contributions having a direct bearing on the general policies, functions and interests of the Association. Articles submitted should be of an impersonal nature.)

THE WAGNER HOSPITAL CONSTRUCTION BILL

By

J. N. Baker, M. D.
State Health Officer

The anticipated passage by Congress of the hospital construction bill, as rewritten by the Senate Committee on Education and Labor, will make federal funds available for the maintenance of hospitals in economically depressed sections of Alabama and other states, as well as for their construction. It is believed that both houses of Congress will likely give it their approval within the next week or two.

The measure as introduced by Senator Wagner differed from the bill in its present form in three important respects. The original bill provided federal funds for construction of hospitals in communities needing them but lacking the means to provide them, but it made no provision at all for federal assistance in their maintenance after being constructed. The original bill provided a federal appropriation for only one year's hospital construction program and offered only one plan by which communities desiring to enjoy its benefits might participate. The rewritten measure, however, makes federal funds available to aid in maintenance as well as for construction of hospitals, extends the hospital construction program over a period of six years, and offers interested communities their choice of two plans of participation. It is evident, therefore, that the bill in its present form is much more liberal than when introduced by its sponsors.

The measure, in the form in which it is expected to receive congressional approval, authorizes to be appropriated to the United States Public Health Service \$10,000,000 annually for six years, beginning with the fiscal year ending June 30, 1941, and such other sums as may be needed for the administration of the Act.

Alabama communities and others wishing to participate in the hospital construction program under Plan I, which will be in effect only during the fiscal year ending June

30, 1941, will be required to make application to the Surgeon General of the United States Public Health Service through the State Health Officer. They will be required to convince the former that a real need exists for the proposed hospital facilities, that these facilities, if provided, will be made available as far as possible to all those residing in those communities, that the hospitals themselves and their equipment will be kept in good repair, and that the hospital service to be provided will be such as to meet the standards set for them. Upon their completion, they will be leased for a period of 60 consecutive months, at the end of which the hospitals and their equipment will be transferred to the lessees. Under Plan II, to become operative only after June 30, 1941, federal grants will be made available to communities for the construction and maintenance of hospitals, these grants to vary from 25 to 90 per cent of the total cost, depending upon the per capita income of the State.

Title to any hospital constructed under Plan II would remain with the community to which the grant was made.

Any hospital constructed under either Plan I or Plan II may, upon the recommendation of the Surgeon General of the United States Public Health Service, receive a grant for maintenance during the first five years of the operation of the institution. The amount to be granted for such a purpose will be determined by the financial ability of the community to maintain an institution of this kind. For a hospital for mental conditions, the maintenance may not exceed \$150 per bed for the first year, \$120 per bed for the second year, \$90 per bed for the third year, \$60 per bed for the fourth year, and \$30 per bed for the fifth year. For any other type of hospital, the maintenance grant may not exceed \$300 per bed for the first and second years, \$240 per bed for the third year, \$180 per bed for the fourth year, and \$120 per bed for the fifth year.

Because of Alabama's low per capita income, this State should be in a particularly favorable position to benefit from the operation of the act, with respect to both construction and maintenance costs.

TRANSACTIONS OF THE ASSOCIATION

1940 SESSION

(Concluded)

Last Day, Thursday, April 18

The Association, sitting as the Board of Health of the State of Alabama, was called to order at 9:00 A. M. by the President, Dr. M. S. Davie.

The report of the Board of Censors was rendered by the Chairman, Dr. E. V. Caldwell.

THE SIXTY-SEVENTH ANNUAL REPORT OF THE STATE BOARD OF CENSORS INCLUDING ITS REPORTS AS THE STATE BOARD OF MEDICAL EXAMINERS AND AS THE STATE COMMITTEE OF PUBLIC HEALTH

E. V. Caldwell, M. D., Chairman

The State Board of Censors, in conformity to constitutional mandate, has the honour to submit to this Association its Sixty-Seventh Annual Report.

PART I

AS A BOARD OF CENSORS

It is with a sense of deep satisfaction that the Board again is able to direct attention to the unanimity of feeling and purpose which has prevailed throughout our Association during the past year. For sixty-five years, in unbroken sequence, this organisation, conceived primarily in the scientific spirit, has unfailingly functioned, for the protection of the public health in the dual capacity of both a scientific and a legal body. As a consequence, our people and the machinery of governance alike instinctively turn to this professionally trained group for sound guidance in matters pertaining to the public health. As the lines of preventive and curative medicine, as applied to society and to the individual, converge more and more and become more complementary and less antagonistic, this Association finds itself in happy position to make even greater contributions to the citizens of this State in the fields of scientific medicine.

ELECTION OF STATE HEALTH OFFICER

Section 6 of Article XIII of the Constitution of The Medical Association of the State of Alabama reads as follows:

"The board shall elect from the College of Counsellors, by not less than a majority vote of its members, an executive officer to be known as the State Health Officer, and shall submit the name of the officer so elected to the Association (the State Board of Health), in annual session, for confirmation."

In compliance with this constitutional provision, the Board has pleasure in reporting to this Association that it has unanimously reelected J. N. Baker, of Montgomery, as State Health Officer for a period of five years, and now submits this action by the Board to this Association for confirmation.

The action of the Board was confirmed by the Association.

RESEARCH STUDIES AND DEMONSTRATIONS IN THE FIELD OF PUBLIC HEALTH

The Board and this Association, throughout many years, have given encouragement and support to their health department in the sponsoring of various research studies in the important field of public health. These investigations, because of our own financial limitations, have been made possible through aid given by philanthropic and federal agencies and have proven to be a real stimulus to health work and scientific medicine in this State. The State Health Officer, in his annual report to the Association, recites the progress made in several of the projects which have been in operation for one or more years and also describes two interesting demonstrations in the delivery of health services, inaugurated during this year with the aid of the Children's Bureau and the Julius Rosenwald Fund.

It is interesting to note the manner of planning of each of these endeavours. Prior to the formulation of any plans, the entire program was presented to the local profession for counsel and advice; the final working plans incorporating the combined views both of the profession and of the health workers. Furthermore, it will be seen that every effort has been put forth to make as full use as possible of the members of the local profession in the delivery of medical services, thereby preserving a principle for which organised medicine has consistently stood. The Board feels that these demonstrations—which may be viewed as experiments in the use of tax monies in providing medical care for the necessitous—have added significance in that they demonstrate anew the cordial and cooperative relationship existing between the medical and public health professions of our State, as well as their willingness to seek for and find answers mutually satisfactory and acceptable.

POSTGRADUATE MEDICAL STUDY

The Board is gratified to record the enthusiastic response, on the part of the practicing physicians, which has greeted the inauguration of the statewide program for postgraduate study during the past year, and directs attention to the comprehensive report submitted by the Association's Committee on Postgraduate Study. It should be em-

phasised that this program is a rather expensive one, made possible through annual contributions from this Association, the State Health Department and the Commonwealth Fund and planned to extend over a period of at least three years. The teachers and clinicians selected to conduct these courses are outstanding in their respective fields and consequently prepared to present their subjects in so helpful and practical a manner that no practicing physician can afford to miss them. As to the need and benefits of such a program, no one can question, if full utilisation is made of it by our physicians.

The Board, therefore, expresses the hope that both interest in and attendance upon these courses will be increased during the present year.

In this connection, the Board desires to commend the State Health Officer for his efforts which have made possible a further extension of postgraduate facilities sponsored by the Commonwealth Fund to Alabama physicians. This program, which provides a liberal fellowship grant of \$250 monthly—not to exceed two months—to twenty selected Alabama physicians for postgraduate courses at Vanderbilt University during the summer months, should prove both attractive and beneficial to many of our physicians. For this assistance to the cause of postgraduate work in this State, so graciously extended by the Commonwealth Fund, the Board recommends that a special vote of thanks be extended the officers of the Fund by this Association.

Over and above these particular programs designed to improve the quality of medical care now being rendered by physicians, the Board notes, with approving interest, the valuable assistance being rendered the profession throughout the State by the consultant staff of the central health department in the several specialty fields. Due to the tremendous strides made by scientific medicine in comparatively recent years, we now witness many and growing subdivisions of medical and surgical specialties which defy complete mastery by the general practitioner; and, yet, these call for at least a working and understanding knowledge of their importance on his part, in order that sound advice may be given in each case.

Particularly is this true in the fields of pediatrics, tuberculosis, the venereal diseases, obstetrics, cancer and industrial hygiene, where early recognition and preventive measures prove so valuable. The Board, therefore, appreciating the difficulties oftentimes encountered by rural physicians in procuring the aid of specialists, recommends the cooperation and free use by physicians of such specialistic services as can be made available through our health department.

In this connection, the Board feels that this Association should give serious consideration to the formulation of suitable plans whereby the licensed Negro physicians of the State may be given an opportunity, whenever and wherever possible, for refresher instruction and training. The need for this is appreciated when it is recalled that some thirty-seven per cent of the State's population is colored and that there are now approximately one hundred Negro physicians in the State, inclusive of the medical staffs

of the Veterans' and John A. Andrew Memorial Hospitals located at Tuskegee. Of this number some twenty-eight are located in Jefferson County; seven in Mobile, and eight in Montgomery, our three most congested areas, and where, in each of these counties, the Negro population exceeds that of the general average for the State.

The Board feels that the efforts now being put forth at these points, and particularly in Jefferson County, through the Negro clinic services sponsored by the local medical profession and administered by the official health agencies are worthy of special commendation because of the emphasis being placed on the teaching aspects of these clinics by the physicians in charge. At such clinics competent instruction is being given in obstetrics, tuberculosis, venereal diseases, pediatrics and prenatal and postnatal care.

Furthermore, the Board suggests that at the postgraduate lecture courses given throughout the State suitable arrangements be made for Negro physicians and that they be encouraged to avail themselves of these opportunities for self-improvement.

The Board has also learned with interest of the contemplated plan of the State Health Officer for a state-wide institute for Negro physicians to be held at some suitable point in the near future and under the auspices of the health department.

So important is this entire problem of postgraduate medical study and particularly as it relates to the Negro physician, that the Board recommends that this Association go on record as encouraging and sponsoring medical educative programs for all licensed physicians of this State, both white and colored.

THE LEGISLATURE OF 1939

In the October 1939 issue of the Association's Journal, the State Health Officer presented a detailed account of the 1939 legislative happenings, as these relate to the medical profession and to the health department. Consequently, it does not seem necessary for the Board, at this time, to do other than to reemphasise the importance of our members keeping themselves fully informed as to the policies, aims and legal responsibilities of this Association, so that they may be in position to counsel wisely and sanely with their own legislators in all health and medical matters which may claim the attention of our lawmaking body.

Many bills, motivated by selfish desire of individuals or of groups, yet having important health and medical implications are likely to be introduced into the Legislature, whose end results would prove inimicable to the best interests of society. Doctors should be prepared to present the *reasons* for *opposition* to such legislation to their own delegation in the Legislature as well as for *approving* legislation sponsored by the organization and its health department. Because of this Association's responsibility in all affairs pertaining to the public health—including licensure of those engaging in the healing art—a distinct obligation rests upon its members which cannot and should not be shirked if high standards and efficiency in these important fields are to be

preserved. With these thoughts in mind, the Board feels that brief mention should be made of the following:

PRESENT APPROPRIATION FOR HEALTH WORK

It will be recalled that, prior to the last legislative session, this Association had approved the Board's recommendation of an annual increase of \$100,000 of the present reduced appropriation for health, which had been fixed by the 1932 Legislature, during the peak of the depression. These recommendations were based upon the vital health needs of the State not now being met, because of this inadequate appropriation; upon the extension of full-time health services into every county of the State and also upon the State's increased revenues, resulting from the application of the income, the sales and the liquor taxes. Regretfully, this Board has to report that these recommendations did not receive favourable action at the hands of the Legislature, the prevailing sentiment of this body being one of satisfaction with the present performance of this department and that the State's revenues would not, at this time, permit of further expansion of public health services. However, there was added to the present appropriation a conditional amount of \$25,000 contingent upon the State's revenues and approval by the Governor. The Board is happy to report that the State's finances are now such that the Governor has made available to the health department the full amount of this contingent appropriation for the current state fiscal year.

While an approving attitude, on the part of the Legislature, toward the conduct of the State's health affairs is gratifying to this Association, our position must be a positive and insistent one as to the vital need for adequate financial provision being made for the proper operation of the State's health machinery for which we are responsible.

PRENUPTIAL EXAMINATION BILL

Under the sponsorship of this Association and the health department, and after a careful study of laws already adopted in other states, a pre-nuptial bill was introduced into the 1939 Legislature. This bill, after passing the Senate by the flattering majority of 25 to 3, reached the House and was accorded a place on the House Calendar. However, due to the congested state of this Calendar, this bill was not reached on the last day and has been carried over for consideration when the Legislature reconvenes for its last three days in June 1940. Because of the importance of this legislation, it is suggested that this Association make a special appeal to the Governor and the Legislature that this bill be enacted into law when the Legislature reconvenes in June of this year.

The Board, therefore, recommends that approval be given by the Association of the following resolution:

Whereas, The present prenuptial bill now on the Calendar of the House and to be acted upon by that body when it reconvenes in June 1940 has already received the approval and endorse-

ment of this Association, which constitutes the State Board of Health; and

Whereas, Such legislation represents a distinct forward step in an effort to improve the future citizenry of this State; and

Whereas, Nineteen states already have enacted legislation of a similar nature and many others are contemplating doing so; and

Whereas, This bill has already been favourably acted upon by the Senate, with only three dissenting votes; therefore be it

Resolved, That this Association urge upon the Governor and the Legislature the importance of having this bill enacted into law when the Legislature reconvenes in June 1940; and be it further

Resolved, That copies of this resolution be furnished the Governor, all members of the Legislature and the newspapers of the State.

The resolution was approved.

LEGISLATIVE ACTIVITIES OF CHIROPRACTORS

As presented by the State Health Officer in the October issue of the State Medical Journal, the chiropractor group was particularly active during the 1939 legislative sessions, both through their own representation and through a paid lobbyist of the legal profession. As a consequence, their bill, which sought to create their own licensing board and to confer upon them large latitude in the treatment of disease, found its way out of committee and now has a place on the House Calendar when the Legislature reconvenes in June. The members of this Association are fully aware of the dangers to our own people of this type of legislation, as well as of its needlessness; and must again, between now and the short June session of the Legislature, point out to their own representatives the unwisdom of such legislation and their reasons for opposing it.

The Board, therefore, recommends that this be done both through personal contact and through suitable resolutions adopted by county medical societies and transmitted to their own legislators prior to the convening of the Legislature during the coming summer.

The Association concurred in this expression of the Board.

FEDERAL LEGISLATION

HOUSE RESOLUTION 8963

Several bills of importance to the general medical profession and of especial importance to this Association, because of its responsibilities as a State Board of Health, have been introduced into the 1940 Federal Congress. The most important, from the standpoint of this Association's interest in upholding proper standards of licensure for all who practice the healing art, is House Resolution 8963, introduced into the House by Representative Tolan of California, giving chiropractors the right to treat injured employees, who are entitled to the benefits of the United States Employees' Compensation Act. This bill was referred to the House Committee on the Judiciary, of which Hon. Sam Hobbs, of Alabama, is a member. The State Health Officer, upon learning of this

bill and appreciating the implications of such federal legislation, wrote Congressman Hobbs, registering, on behalf both of this Board and of this Association, opposition to the bill. Copies of this letter were sent to all members of the Judiciary Committee and also to Alabama's representation in Washington. The letter follows:

"On March 18th, 1940, House Resolution 8963, seeking to give chiropractors the right to treat injured federal employees who are entitled to the benefits of the United States Employees' Compensation Act, was introduced by Representative Tolan of California in the House of Representatives.

"As State Health Officer and also as Secretary of the Licensing Board of Alabama, which Board is authorized by law to pass upon the qualifications of all persons who propose to engage in the healing art, I, speaking not only for this Board, but also for the organized medical profession which, in Alabama, constitutes the State Board of Health, desire to point out to you and your honourable Committee that such legislation as contemplated in this amendment would be distinctly prejudicial to the best interests of the public health.

"The experience of the various state licensing boards throughout this country as a whole has amply shown that applicants from the chiropractic group have received neither proper nor adequate training in the basic subjects of modern scientific medicine to warrant their assumption of such broad responsibility in the whole field of medicine as contemplated in this proposed amendment. To substantiate this statement, the records will show that approximately 75 per cent of all chiropractors appearing before basic science licensing boards have failed.

"Furthermore, such recognition on the part of the Federal Government will unquestionably cripple and hamper the efforts which, for more than a quarter century, state licensing boards have been putting forth to protect the public health through maintenance of fair, yet sufficiently high standards for all who attempt to treat diseases of human beings, regardless of the method employed.

"In the light of the above, therefore, may I not ask that you and members of your Committee give serious consideration to the detriment certain to be done to the cause of public health in the states, through such federal legislation as this amendment contemplates, and that you register your opposition to it?"

The Board recommends that this Association give approval to the views herein expressed and to the action taken by the State Health Officer.

Approval was given.

SENATE BILL 3230

Another of importance, and which has the endorsement not only of the President, but also of the American Medical Association, the American Public Health Association, and many other leading organisations interested in the betterment of our national welfare, is Senate Bill 3230, introduced February 1, 1940 into the Senate by Mr. Robert F. Wagner, of New York. In brief, this bill, if enacted into law, will make available

during the federal fiscal year 1940-1941 \$10,000,000 to states for the building of small hospitals in rural communities and economically depressed areas, where the need can be definitely shown and where satisfactory plans for maintenance and operation can be presented. The federal administrative aspects of the bill are vested in a National Advisory Hospital Council and the Surgeon General of the United States Public Health Service.

Alabama's acute need for more adequate hospital facilities for the necessitous and near-necessitous case—both in the field of general hospitals and for the tuberculous—is a fact so well known to the members of this Association as to require no emphasis on the Board's part. Appreciating this need and the assistance likely to come to Alabama, in the event such legislation became law, the State Health Officer has endeavoured not only to acquaint the medical profession and the general public with these needs and the content and purpose of the bill itself, but also to present to the proper authorities in Washington, including committee hearings, factual data and material in support of the bill.

The Board, therefore, recommends that this Association give approval to this legislation and that the State Health Officer be instructed to continue to render all possible assistance in securing its enactment.

The Association gave its approval to the legislation.

SENATE BILL 3246

This bill was introduced by Senator James M. Mead, of New York, February 1. It proposes to authorise a federal appropriation of \$300,000,000 to remain available until expended to be utilised in making loans to public bodies and nonprofit organisations to finance the construction, equipment, repair, alteration, extension, improvement and "the temporary operation and maintenance for a period not exceeding four years" of:

(1) hospitals, defined to mean any institutions or facilities for the treatment of illness or disease, including any health, diagnostic or treatment center, station, institution or clinic;

(2) water and sewerage works and systems, including treatment plants and any and all constituent facilities thereof;

(3) works and systems for the reduction of pollution in streams; and

(4) related "facilities" necessary or proper to safeguarding the health of the people, where, in the determination of the Administrator of the Federal Works Agency, such "facilities" are now inadequate or nonexistent. (The bill is silent as to what is to be considered a "related facility.")

Of the sum to be authorised, not to exceed \$100,000,000 may be devoted to hospital projects and not to exceed \$9,000,000 will be made available during the fiscal year ending June 30, 1941, for administrative purposes in carrying out the provisions of the bill.

Loans will be repayable within a period not to exceed fifty years and will bear interest at the rate of 2 per cent a year.

Inasmuch as one-third of the present hospital facilities within the State are operated as non-

profit institutions, the Board felt that the provisions set forth in this proposed legislation might prove of real assistance to certain of our nonprofit hospitals and therefore recommends that approval be given by this Association to the principles incorporated in this bill.

Approval was given by the Association.

FEDERAL APPROPRIATION TO STATES FOR VENEREAL DISEASE CONTROL

Two years ago the Federal Congress, for the purpose of enabling the various states of the Union in bringing under control the venereal diseases—a problem recognised to be of nation-wide scope and one of major public health importance—enacted into law the LaFollette-Bulwinkle Bill. This Act provided \$3,000,000 for the first year of operation; \$5,000,000 for the second, and \$7,000,000 for the third year.

During this present federal fiscal year—the second of operation—\$5,000,000 was made available to the states, and with this federal aid satisfactory and encouraging progress has already been made in most states in setting up the machinery and in developing state-wide programs for the control of these diseases. Certainly this is true in so far as pertains to our own state of Alabama, as is shown by the State Health Officer's report presented to this Association at this meeting. This report clearly sets forth that Alabama's allotment from this federal appropriation for the current year—somewhat more than \$150,000—has been judiciously expended in building up throughout the State continuing and sound programs of control.

However, the President, in his budgetary recommendations sent to the Congress, fixed the amount for the ensuing federal fiscal year, not at \$7,000,000 as suggested in the original Act, but at \$3,000,000; which sum represents a reduction by \$2,000,000 of the amount now being received and \$4,000,000 from the stipulated amount set forth in the original act.

This Board, in reviewing the progress which has thus far been made by our own health department in the development of its control program in this field, shares with the State Health Officer the anxiety felt regarding the future of this work, already substantially launched in this State, should so drastic a curtailment of this appropriation be made at this time. The Board feels that the efforts already put forth by the State Health Officer in appearing personally before the Appropriations Committee of the Congress and in other ways, in order to have as substantial federal appropriation as possible continued, are to be commended; and recommends that this Board be authorised to draft appropriate resolutions bearing on this subject to be transmitted to the President, to Alabama's Senators and Congressmen and to the Governor.

Authority was granted as requested by the Board.

IMPORTANCE OF HEALTH EDUCATION

The Board, appreciating both the great importance and need for sound scientific facts re-

lating to all phases of health, both individual and community, recommends that this Association go on record as giving approval to the development and expansion, through all educational forces within the State, of programs looking to the more complete accomplishment of these ends. Because of the unique position which this Association occupies in relation to all matters pertaining to health, the Board feels that its official health department, now functioning in every county in the State, as well as the entire membership of this profession, are in a happy position to aid in the development of educatively sound curricula in all matters of health. Particularly is this true in the matter of the habits and hygiene of the individual as these relate to the physiologic effects produced upon the human body resulting from the improper use or over indulgence in many foods or alcoholic stimulants.

The Board has learned with approving interest of the efforts already being made by our health department to cooperate with the educational forces in making more widely available suitable and scientific health material to be incorporated into the teaching curricula. It is, therefore, recommended that this Association go on record as approving these efforts and that assurance be given to the educational forces of this State of its desire and willingness to cooperate in all matters of health.

The Association concurred in this expression of the Board.

MESSAGE OF THE PRESIDENT

The President first graciously thanks the Association for the honour bestowed by elevating him to the presidency and expresses pleasure for the opportunities afforded for making personal contacts, in his official capacity, with many county medical societies throughout the State and through attendance upon the district meetings of the Association. Based upon such contacts and experiences he makes certain valuable suggestions for the further improvement of the activities which should rightfully claim the attention of county medical societies, placing particular emphasis upon the educative approach for both physicians and laymen. He points to the growing value of the use of visual material in any educative program and also to the need for more fully acquainting the local public with the interests and activities of their own doctors. Because of the legal functioning of county medical societies in this State, through their respective county boards of health, the Board finds itself in full accord with the broad principles here enunciated.

The President next, in quite interesting and lucid fashion, directs attention to certain important happenings now taking place in organised medicine throughout the entire country and enumerates some of the experimental approaches being made both by the medical profession and by the laity, which seek to give an added sense of security to low income groups in the medical and hospital service fields through the more liberal use of the principles of prepayment insurance. In such circumstances he cautions against hasty or precipitous action and pleads for the

preservation of a united front, on organised medicine's part, in order that undue violence may not be done to the high ethical and professional standards which, throughout the centuries, have characterised medicine and whose uplifting values are to-day more than ever needed in our turbulent social order. A total disregard of such intangibles, conspicuously to be found in medicine, might well lead, he feels, to a form of socialised medicine in this country neither necessary nor to be desired. Here, again, the Board finds itself in complete accord with the views of the President.

The latter portion of this message deals with the structure and policies of the Association itself. His first recommendation is to the effect that the present constitutional provision which places upon the president the responsibility of selecting suitable essayists to appear on the program of the annual meeting over which he is to preside, be abrogated, and that a standing committee, to be known as a program committee, be created for this purpose within the organisation. The basis for this recommendation is the feeling, on the President's part, that the time spent in program planning might more profitably be given to a study of conditions in the State and attendance upon county society and district meetings. There is no question as to the importance of the President's fully familiarising himself both with the detailed workings of the Association as a whole, and also with as many as possible of its component medical societies. Of the unusual sacrifices exacted in this regard, of one selected for the presidency, the Board is quite conscious; and yet, it is a responsibility which, for the loyal member thus honoured, seems difficult of escape.

The privileges bestowed upon the President of this Association by our Constitution in granting him free leeway in the selection of topics for presentation and their discussants at the meeting over which he is to preside, constitute, in the Board's opinion, such an important, even though unique, factor in the structure of this Association as to be worthy of preservation. In larger bodies, especially those of national scope, resort to program committees seems, for obvious reasons, to be definitely indicated and serves a valuable purpose. The Board directs attention to the fact that the Secretary of the Association, as well as the Secretary of this Board, stand ever ready to render all possible aid to the President in program arrangement and planning, when requested to do so. For these reasons, therefore, the Board recommends that this suggestion of the President be not adopted.

The Association concurred in the Board's recommendation.

The President next briefly discusses the problem of a four-year medical school for Alabama, directing attention to the fact that this Association has already endorsed such a move, and suggests that a committee be selected for the purpose of attaining this end.

Already there exists within this Association an organisation known as "The University of Alabama Medical Alumni Association," which holds its annual dinner meeting at the same time and

place as this Association; within this organisation—all members of The Medical Association of the State of Alabama—there also exists a strong legislative committee, whose duty it is to function in the manner suggested by the President. The Board, therefore, recommends that the legislative committee of the Medical Alumni Association be designated as a special committee for the purpose of promoting the interests of a four-year medical school as suggested by the President.

The recommendation of the Board was adopted.

The President next calls attention to the real dangers to society which have grown out of the indiscriminate sale and use of the barbiturates; he also, in this connection, briefly touches upon the inherent dangers of alcohol. The Board is happy to give approval to these sections of the President's Message. So important did the problems of self-medication and of counter prescribing seem to the Board, that it devoted a rather lengthy section of its report to these questions, venturing therein to offer certain recommendations, which this Association has already considered and favourably acted upon. From this approach the hope is expressed that much good may come.

The closing paragraphs of the President's Message are in the nature of a beautiful exhortation to physicians to keep their own minds brightly burnished through frequent and intimate contact with those of the calibre of an Osler or Sir Thomas Browne. The Board commends this scholarly production to your careful reading.

REPORTS OF THE VICE-PRESIDENTS

These reports reveal an encouraging increase of activity and interest throughout each of the four divisions and that there were held two district meetings in each. The Board is happy to note the improvement in the quality of the scientific papers presented at these gatherings, many of which because of their interest and importance merit subsequent publication in the Association's Journal.

The Vice-President of the Northwestern Division directs brief attention to one or more matters considered of sufficient importance to claim attention by the members of the Association. These are dealt with, somewhat at length, in other sections of the Board's report.

The Board, therefore, finds that these reports are entitled to the full endorsement of this Association and so recommends.

The reports of the Vice-Presidents were endorsed by the Association.

REPORT OF THE SECRETARY

This report reveals that there has been a steady and wholesome growth in the membership of the Association the past five years, reaching, on April 1, 1940, 1,594—an increase of 145 over the year 1935. The percentage of membership in county medical societies shown in this report is likewise encouragingly and flatteringly high—87.9, as contrasted with 86.6 for 1939—with 13 counties boasting 100 per cent membership. The

roster of licensed Negro physicians is given as 79, which number has been deducted in computing the percentage shown above.

In this report attention is directed to the effect had upon the Association's revenues by the action taken two years ago by this body in remitting dues of those members, who, for 30 years, had been continuously identified with the Association. The Secretary estimates that this ruling affects approximately 18 per cent of our present membership; or, stated in another way, 82 per cent of the present membership, exclusive of counsellors, is financing the usual operations of the Association. Although the practical operation of this ruling may not seriously affect the fiscal affairs of the Association either immediately or in the future, the Board feels it of sufficient importance to call to your attention at this time. With this thought in mind, the Board is submitting below a suggested amendment to Article XIV of the Constitution of the Association, dealing with dues and finances.

The Board finds this report of the Secretary to be complete and accurate and entitled to the approval of the Association, and so recommends.

The Association approved the Secretary's report.

REPORT OF THE TREASURER

It is with sorrow and deep regret that this Board, in reviewing for the Association the Treasurer's report, is forced to record the death, October 5, 1939, of its long-time, faithful Treasurer, Dr. Jacob Usry Ray. His services in this office—unbroken over a period of twenty-four years—had been so efficient and loyal as to call for high commendation and had endeared him to our entire membership.

Upon his death, the Treasurer's books were taken over, temporarily, by the Secretary of the Association and were immediately audited; these, as in all previous audits, were found to be in correct order.

At this meeting of the Association it will become necessary to elect a successor to Dr. Ray. Since the death of our efficient Treasurer, the Board has given careful study of the existing plan of operation of the Association's business and fiscal affairs. Inasmuch as there are no constitutional inhibitions, the Board, for purposes of greater simplicity, efficiency and economy, recommends that the duties of the Secretary and Treasurer of the Association be fused and that the member elected to perform these duties be known as the Secretary-Treasurer of The Medical Association of the State of Alabama.

In keeping with the Constitution of the Association, which provides that the salary of the Secretary and Treasurer be fixed by ordinance of the Association, the Board further recommends the adoption of the following ordinance:

Be It Ordained by The Medical Association of the State of Alabama:

Section 1. That, until otherwise decreed by ordinance of the Association, the duties of the Secretary-Treasurer of The Medical Association of the State of Alabama be combined; that said

duties, as defined in the Constitution, be performed by one member of the Association, this officer to be known as Secretary-Treasurer of The Medical Association of the State of Alabama, and to be elected for a period of five years and in the same manner as other officers of the Association.

Section 2. That the salary of the Secretary-Treasurer shall be one thousand dollars (\$1,000.00) annually, together with such clerical help not to exceed three hundred dollars (\$300) as the Board may deem necessary for the proper operation of the office; said salary to be payable in monthly installments from the funds of The Medical Association of the State of Alabama.

The ordinance was adopted by the Association.

EXPENSE OF SECRETARY AND TREASURER

Last year, through oversight on the Board's part, the following amendment to the ordinance relating to the Secretary and Treasurer of the Association failed to receive consideration by the Association. It is now being submitted for your consideration and action.

The amended ordinance reads as follows:

"That the actual expense incurred by the Secretary and Treasurer of the Association, exclusive of the annual attendance upon meetings, in the routine discharge of official duties, shall be viewed as justifiable charges against the funds of the Association, when, at each annual meeting of the Association such expense account, properly itemised, is submitted by the officer concerned."

The amendment was adopted.

SUGGESTED AMENDMENT TO THE CONSTITUTION OF THE ASSOCIATION

In suggesting this amendment to Article XIV of the Constitution the Board entertains the following views:

1. The unwisdom of including in the constitution of any organisation minutiae and details bearing on its operation. Only the broad objectives and purposes and mechanisms necessary to attain the ends sought should be set forth in this document. Once formulated and adopted, the organic structure of a constitution should remain undisturbed except for real cause;

2. Section 2 of this Article reads as follows:

"For each delegate representing a county society at an annual meeting of the Association said society shall pay into the treasury the sum of four dollars, which amount shall be paid before the delegate qualifies as such."

The Board feels that this extra assessment placed upon county medical societies for the privilege of representation in the legislative body of the parent organisation, for the purpose of stabilising the Association's revenues and now totalling \$572.00, should, in fairness, be abrogated, and other means sought, through ordinance, of replacing this loss to the Association, if same becomes necessary. The suggested amendment to Article XIV deletes, in toto, this Section;

3. The question of dues and finances, being one likely to be susceptible of change, can be more readily and expeditiously cared for through ordinance or by-laws, thus preserving intact the Constitution;

4. The purport of this amendment is to lift from the Constitution the fixing of dues to be paid within the Association and to provide for this contingency by ordinance.

Amend Article XIV of the Constitution of the Medical Association of the State of Alabama by substituting therefor the following:

ARTICLE XIV.—ANNUAL DUES AND FINANCES

Section 1.—Every member of The Medical Association of the State of Alabama shall pay annually into the treasury of the Association an amount to be fixed by ordinance of the Association, which amount shall be collected by the component county societies in whatever way they may provide and shall be transmitted to the Treasurer of the Association through whatever channel they may deem safest and best.

Section 2.—Every counsellor, other than a life counsellor, shall pay annually into the treasury of the Association an amount to be fixed by ordinance of the Association; provided that the annual amount to be paid by a counsellor, other than a life counsellor, shall not be less than ten dollars.

If in attendance at the annual session, this amount shall be paid before registering as such; if not in attendance, the amount shall be transmitted to the treasurer within two months after the adjournment of the Association.

Section 3.—The funds of the Association shall not be appropriated for purposes other than those which tend to uphold and maintain its organisation, perpetuate its history and advance its interests and those of scientific medicine and public health.

The publication of an official Journal of the Association and, if authorised by ordinance of the Association, an annual volume of transactions shall be deemed a proper expenditure of funds.

This suggested amendment to the Constitution will lie over for one year.

ELECTION OF OFFICERS OF THE ASSOCIATION

Section 4 of Article 8 of the Constitution of this Association reads as follows:

"Officers shall be elected by ballot and without nomination. A majority of all votes cast shall be necessary for election. Every officer shall continue in office until his successor is duly elected and installed."

The language of this section is clear as is also its spirit and intent. At some meetings of the Association, largely for the purpose of conserving time when balloting on the several officers to be elected, upon motion made from the floor, unanimous consent has been given to authorise the Secretary of the Association to cast the ballot for the vacancy to be filled.

In order that this Association may not be subjected to possible criticism from any source, the Board recommends that this legislative body,

composed of the counsellors and delegates of the Association, in the future follow uniformly the spirit embodied in this section of the Constitution and that strict adherence be given to it when filling vacancies for officers of this Association by ballot.

The Association concurred in this expression of the Board.

COMMITTEE OF PUBLICATION

The report of the Committee of Publication reveals a wholesome growth in the range of activities which the Journal embraces, as well as a satisfactory condition of the Journal's finances.

The Board recommends the approval of this report.

The report was approved.

REPORTS OF STANDING COMMITTEES

1. PUBLIC RELATIONS

This year's report of this committee is devoted largely to the lifting of sections from other official reports which have, in recent years, been issued bearing on the economic conditions of the South, particularly those emanating from the Interdepartmental Committee on Health and Welfare of the Federal Government, and from the Department of Public Welfare of the State of Alabama.

The excerpts used in the committee's report should prove informative and enlightening to all physicians and the Board suggests a reading in full of the reports referred to in this report.

The report closes with the following recommendations:

"1. The adoption of the platform of the American Medical Association and the use of all influence available for the establishment of a national department of health;

2. That each county medical society determine its own needs and work out a plan whereby all federal, state and local funds may be used to the greatest advantage;

3. That assistance offered through present or proposed federal legislation be used in accordance with specific needs for medical relief as pointed out by county societies;

4. That The Medical Association of the State of Alabama be first in the organization and direction of county units for medical relief as it has been in formation and operation of a state department of health."

The Board recommends approval of this report by the Association.

The Association gave its approval to the report.

2. PREVENTION OF CANCER

This report reveals a most commendable degree of activity and interest on the part of its committee members during the past year. After directing attention to the very important public health aspects of control programs for cancer, which now ranks second as a death producer in the United States, and to the stimulating effects resulting from the health department's action last year, in making cancer a reportable disease, this

report enumerates the encouraging progress, which has been made through the educational programs sponsored jointly by county medical societies, the Women's Field Army and by this committee. For the exceptionally fine spirit of cooperation displayed by the Women's Field Army, the committee expresses much appreciation.

For purposes of preserving uniformity with other states in the naming of this committee, it is suggested that its present title, "Committee on the Prevention of Cancer," be changed to "The Committee on Cancer Control."

The committee further suggests that serious consideration be given to the possibility of financing an even more intensive campaign of cancer control and also of making some sort of provision for aiding the indigent cancer victim in the matter of procuring more adequate care in the diagnosis and treatment of his malady.

In all of these suggestions, the Board finds itself in full accord and recommends that complete approval of this report be given by the Association.

The Association gave approval to the report.

3. COMMITTEE ON POSTGRADUATE STUDY

The report of the Committee on Postgraduate Study for the year just ending—which marks the beginning of our efforts in a state-wide program in this field—is not only complete, concise and full of hopeful promise for the future, but also makes several valuable suggestions as to the enrichment and deepening of its scope of usefulness. Some of these the Board has already commented upon in its report dealing with Postgraduate Study and particularly the need for the extension of educative facilities for the Negro physician. The committee emphasises the great good which can flow from the more liberal use of clinical material, of consultations and of lay talks in the communities where lectures are being held. A particularly happy suggestion made by the committee is that of compiling a list from our own membership, for use by county medical societies, of certain physicians and surgeons devoting their activities to particular specialistic fields, who might be willing, upon invitation, to place their services at the disposal of county medical societies, desiring to have certain topics authoritatively presented. The Board feels that this Committee on Postgraduate Study is the proper one to perform this service for the Association and that such a list, carefully prepared and furnished the Secretary of the Association, should prove most serviceable, particularly to certain of our smaller societies.

The Board, therefore, recommends that this committee be requested to assume this responsibility and further recommends that this report is entitled to the full approval of the Association.

The Association gave approval to the report.

4. COMMITTEE ON MATERNAL AND INFANT WELFARE

This report reveals substantial progress made by this committee along the lines set for itself in its last year's report. One of its major concerns has been to arrive at an exact determination as

to the principal cause or causes involved in maternal deaths; these studies reveal that sepsis still holds first place, with toxemias of pregnancy and hemorrhage claiming second and third places, respectively. The report closes with several valuable suggestions, some of which are designed to aid county medical societies in the improvement of their educational efforts in the field of maternity and infancy work and have the approval of the Board.

The Board, therefore, recommends approval of the entire report by the Association and commends it to your careful reading.

The Board's recommendation was adopted.

5. COMMITTEE ON MENTAL HYGIENE

As in previous years, this report reveals that this committee has busied itself with educative activities amongst lay groups, seeking thereby to acquaint the lay mind and to prepare the soil, when finances will permit, for a sound and approved state-wide program in the field of mental hygiene. This committee directs attention to the need, in this State, both for more practicing psychiatrists and also for beginnings to be made in our more populous centres for part-time psychiatric clinics, closely linked in with general hospital and clinical services. The committee reports that a modest beginning in this regard has been made during the past year in Birmingham and expresses the hope that such programs may find a wider application at suitable points throughout the State.

The Board records complete concurrence in the views expressed in this report and recommends its unanimous approval by the Association.

The Association approved the report.

6. COMMITTEE ON FRACTURES AND FIRST AID

This report reveals that the members of this committee have been quite active in bringing both to the medical profession and to lay groups—especially to firemen and policemen—the newer and approved methods of rendering first aid services.

The Board feels that because of the growing importance, in quite recent years, of certain diseases to which industrial workers, because of their environment, may be subjected, the time has definitely come for this Association to create within itself the mechanisms necessary for acquainting its membership with industrial health problems. These views are further strengthened by the growing interests displayed in industrial health problems within the American Medical Association, through the creation of a Council on Industrial Health and also by the commendable efforts being put forth by the United States Public Health Service in aiding state health departments in perfecting the machinery necessary to bring about substantial improvement of health conditions in the industrial field. To attain these objectives, a knowledge and understanding, on the part of the practicing profession, of the close relationship of industrial health to general community health appears to be quite essential.

Looking to this end, the Board recommends that the name of this committee, "Fractures and

First Aid" be changed to "Accidents and Industrial Health" and that the activities of this committee, formerly confined to traumatic surgery and the lessening of accidents, be broadened so as to embrace the field of industrial health; and also that the incoming president give consideration to the enlarged scope of this committee, when occasion arises for personnel replacements on it.

The Association approved the recommendation of the Board.

7. COMMITTEE ON MEDICAL ARCHIVES AND HISTORY

It will be recalled that President Seale Harris, Sr., in his message to the Association last year suggested the creation of a committee on medical archives and history. At that time, the Board commented upon this section of the President's Message as follows:

"With these views, the Board is in entire sympathy and accord and recommends to the Association that it give its approval to the appointment of such a special committee by the incoming president, which committee will serve without cost to the Association."

Such a committee was promptly set up by the President and has displayed such a keen and active interest in performing the rather difficult tasks expected of it, that the Board notes, with great pleasure, the substantial progress already made and as revealed by this, its first report to the Association. As to the worthwhileness to the Association of the purposes to be accomplished through the labours of such committee, the Board at no time entertained doubt.

In the light of this report, the Board recommends that it be approved and that this committee, to be known as the Committee on Medical Archives and History, be added to the Association's list of regular standing committees and subject to the ordinance regulating such committees.

ILLEGAL PRACTITIONERS

The Board has received from several county medical societies the following identical resolution:

"Whereas, There are one or more persons, usually, in every county who are practicing medicine without the proper legal qualifications; and

Whereas, In many instances the local county board of censors has employed the ways and means set up by present laws to stop such practices with embarrassing results or failure; and

Whereas, There is a State Board of Medical Examiners who examine and license physicians, promulgate rules and regulations, and who, for cause, can revoke any permit it may have issued; and

Whereas, The State Board of Censors recommended the adoption of the fourth recommendation of President D. F. Talley's Message in 1922, which is as follows:

'Fourth Recommendation: The President points out the difficulty of preventing the illegal practice of medicine in Alabama and recommends that the Board of Censors take such steps as may

be necessary to have the medical practice act so amended as to make more effective the prevention of this class of charlatans. The Board recommends the adoption of this recommendation.'

Therefore, Be It Resolved, That the State Board of Censors be empowered to set up the necessary ways and means to prosecute any person in the state of Alabama who is practicing the healing art without having complied with all the requirements essential to such acts; and

Be It Further Resolved, That a copy of these resolutions be forwarded each member of the State Board of Censors, the chairman of each county board of censors, the officers of the State Medical Association and the officers of each county medical society."

The problem of dealing with illegal practitioners of the healing art is one of the most difficult which today confronts the courts and the reputable medical profession of this country. In an effort to protect the public from the incompetent, the charlatan or the quack, each state has set up licensing or qualifying boards to pass upon the fitness of those who offer to engage in the healing art; and, through statutory enactment, has provided the manner in which these boards shall be constructed and shall function, together with their duties and limitations. The authority given to such boards stems from the police powers vested in states; and the principal authority granted to them is the determination of the fitness of an applicant and the power of revocation, for cause, of an issued license. The laws of this State do not empower the State Board of Medical Examiners with the authority to take legal action against an individual who may violate any of the State's civil laws, one of which is the practice of the healing art without first procuring a certificate of qualification. The Code of Alabama prescribes the methods by which offenders against state laws, such as the illegal practitioner, may be dealt with. In many states, there exist separate boards to pass upon the qualifications of applicants seeking to employ a particular type of treatment or therapy, such as osteopathy, chiropractics and the like; or those who may seek to limit their activities to a particular part of the body, such as the chiropodist, or the optometrist. The confused medley of law regarding licensure in the several states is, of course, but a reflection of the tremendously rapid growth of the many cults and of quackery in the healing art and of the pressure brought to bear on state legislatures through interested groups. In this State, no such division or multiplicity of boards has thus far obtained. The State Board of Censors of this Association, serving the people of this State as a qualifying board for all who desire to engage in the healing art, has, throughout the years, and, at times, in the face of determined opposition from interested groups before the legislature, fought to preserve, as nearly as possible, intact both the present system and its high standards. In 1923, the State Board of Medical Examiners, appreciating the increasing complexities and difficulties of licensure, growing out of demands being made by those proposing to practice systems of treatment other than that of regular medicine, recommended to the legislature certain modifications

in the medical practice act which, while waiving for these groups the educational and certain other requirements, did seek to preserve in the law the basic things which should be expected of any one attempting to treat diseases of human beings. The osteopathic profession has rigidly complied with the provisions of this amended law and there are today few, if any, illegal osteopathic practitioners in the State. Experience has shown, however, that, with very few exceptions, the followers of other schools of treatment, notably chiropractors, continue to ply their trade in defiance of existing law. Of these facts, the Board is quite mindful; and, for the past several years, through its executive officer—the State Health Officer—effort has been made to procure the interest and aid of the State's legal machinery through the Attorney General's office, with increasingly satisfactory results in several instances. The State Health Officer has discussed with the Attorney General and his staff the difficulties frequently encountered when dealing with these problems purely at the local level and has been given assurance of cooperation on the part of the State, when official request is made to that office.

County boards of censors and county medical societies, whose members themselves have fully complied with the law, should not lose sight of the initial responsibilities which rest upon them when violations of the medical practice act arise. The steps to be taken are clearly set forth in the "Compend" of the Association, with which every member should be familiar.

The Board, therefore, desires to record its concurrence in the sentiments and purpose expressed in these resolutions and to assure this Association of its willingness to aid in every possible way to bring about an improvement in present conditions and recommends that whenever violations are known to exist request be promptly made by a county medical society of the State Health Officer to enlist state aid through the Attorney General's office.

The expression of the Board was concurred in by the Association.

SELF-MEDICATION AND COUNTER PRESCRIBING

The past year has brought to light discouraging evidence of increase in the pernicious tendencies of self-medication, indiscriminate sale of distinctly harmful drugs and of counter prescribing.

Specifically, these abuses have arisen principally in two fields of therapy: (a) the barbituric acid derivatives; and (b) self-medication and prescribing for the venereal diseases.

The abuses in the field of the barbituric acid products were brought to the attention of the State Health Officer both by the Chief Medical Adviser of the State Department of Corrections and Institutions and by the Alabama State Board of Pharmacy. By joint action of the medical and pharmaceutical professions, a statement was promptly prepared and reached the members of both professions throughout the State, directing attention to the present law prohibiting the sale of any of these products except upon the original signed prescription of a physician, and making appeal to the members of both professions for

rigid observance of the law. This whole question has been fully presented—under the editorial section of the March 1940 issue of our State Journal—which the Board commends to the careful reading of the membership of the Association.

The Board is happy to report that the response of both druggists and doctors to this appeal has been quite gratifying, as shown by the following communication from the Chief Medical Adviser of the State Department of Corrections and Institutions:

"Since the State Board of Health has exercised its kind offices in bringing to the attention of the druggists and physicians of the state of Alabama the law governing the sale of barbiturates, I wish to state that penal institutions in the neighborhood of Montgomery have been free of any cases of intoxication from this source.

The week-end cases of intoxication from the barbiturates have dropped from six to ten at Kilby to nothing. We have not had a case in the last two weeks.

The Department of Corrections and Institutions wishes to thank you for your prompt action in this matter and to say that if results throughout the State can be judged by the results at our prisons, the good to result from your action will be inestimable."

The second abuse—that involving self-medication and counter prescribing of patent remedies to be used in the treatment of venereal diseases—chiefly those for gonorrhea—is concededly more complex and difficult to deal with. In this connection, and because of the intensified efforts now being made to bring these diseases under mastery through proper reporting and treatment, the Board feels it incumbent to call to the attention of both physicians and druggists certain sections of the laws of this State which place definite responsibilities upon the members of both professions.

Section 1103 of the Code declares the venereal diseases to be communicable and dangerous to the public health and makes them notifiable and reportable diseases. Section 1105 makes it mandatory upon physicians to instruct the patient as to proper methods of preventing the spread of these diseases and of the necessity for treatment until cured. The Board feels that a fuller understanding and cooperation on the physician's part in these particulars would aid tremendously the present control program now being conducted in this State. Another important section—Section 4381—makes it unlawful for any druggist or clerk or employee of any druggist, not a licensed physician, to prescribe or recommend any drug, medicine, or other substance to be used in the treatment of the venereal diseases.

In order to determine the prevalence of self-medication and counter prescribing in the field of the venereal diseases, in 1939 the United States Public Health Service, in cooperation with the American Social Hygiene Association, undertook a survey of 35 cities in 26 states. This study, "Illegal and Unethical Practices in the Diagnosis and Treatment of Syphilis and Gonorrhea," which was published in the January 1940 issue of the Venereal Disease Information of the Public Health Service and reprinted by the American

Social Hygiene Association, is summarised in the following fashion by its authors:

"(1) Illegal and unethical practices still exist widespread and in great volume.

"(2) In 35 cities, 62 per cent of the 1,151 drug stores visited were willing to diagnose and sell 'remedies' for syphilis or gonorrhea; 31 per cent would not diagnose but did sell remedies, especially if asked for by name; only 7 per cent refused to diagnose or sell.

"(3) There are on the market many different patent 'remedies' for venereal diseases, apparently sold in large volume.

"(4) There is some indication that the sale of such 'remedies' is now even larger in volume than 6 to 8 years ago.

"(5) Large numbers of charlatans, herbalists, and other unlicensed practitioners are treating many persons having syphilis and gonorrhea.

"(6) A huge educational task yet remains to be done, judging from a series of replies by men in the street to casual questions concerning proper treatment for syphilis and gonorrhea."

As to the remedial action to be taken the following are suggested:

"1. Suppression of the quack druggist and continued information for all druggists, through schools of pharmacy, pharmaceutical associations, and trade and professional journals.

"2. Eradication of quackery—both the unethical practitioner who directly dispenses so-called treatment and the mail-order medical man.

"3. Education of the public."

From the above, it will be seen that the major emphasis, looking to a correction of existing shortcomings, has been placed upon the need for an all-inclusive educative program, embracing all strata of society, lay and professional alike. In these conclusions the Board heartily concurs; it views with approval the cooperative efforts now being put forth by our State Health Officer with the National and State Pharmaceutical Associations, the American Social Hygiene Association, the United States Public Health Service and other interested organizations to bring about a betterment in the present unsatisfactory conditions which, basically, involve the professions of medicine and pharmacy. Looming large, as every one knows, in our present efforts for improvement are the strongly entrenched interests of quack and patent medicines offered to the credulous sufferers of these diseases through many devious and clandestine channels. For these reasons, and in the light of the satisfactory experiences just recited in controlling abuses arising from the promiscuous sale of the barbiturates, the Board is strongly of the opinion that through such an educative approach, with the professions of medicine and pharmacy taking the lead through a more strict observance of the legal responsibilities placed upon them and through a fuller cooperation with official health agencies, state and local, directing programs of venereal disease control, not only may lasting results be accomplished, but also that these two professions, whose traditions stem from identical humanitarian roots, may be relied upon to the fullest degree.

In order to more promptly effectuate these purposes, the Board recommends as follows:

(1) That there be created, in accordance with ordinance, an additional standing committee within the Association to be known as the Standing Committee on "Physician-Druggist Relationships" and one of whose important functions shall be a careful study of the problems discussed in this section of the Board's report.

(2) That copies of this section of the Board's report be furnished the officers of the Alabama State Board of Pharmacy, with the request that a like committee be created by this body to co-operate in attaining the objectives set forth above.

(3) That the American Pharmaceutical Association be requested to give full support to, and to aid in, the development of cooperative plans between the medical and pharmaceutical professions in dealing with these and similar problems of vital concern to both professions.

The recommendations of the Board were adopted by the Association.

MEDICAL COOPERATION WITH THE FARM SECURITY ADMINISTRATION

It has now been two years since this Association so modified its ordinance relating to contract practice as to permit contractual relations to be established on an ethical basis between county medical societies and the Farm Security Administration. At that time, also, a model form of contract was drafted for the guidance of county medical societies embracing these ethical principles. Because of the fact that this agricultural group falls exceedingly low in the economic scale and the financial resources to be made available are necessarily limited, one could hardly expect such a program to operate with uniform satisfaction throughout the State. Such has proven to be the case; in some counties the program has worked far more satisfactorily than in others. The following condensed statement of this agency's activities during the past year is of interest:

"Beginning in 1938, in 4 counties, the group medical care plan is now operating in 34 counties extending medical care to an estimated 13,000 families. Growth of this program by years is shown in the following figures:

Year	Counties	Families	Individuals
1938	4	868	4,330
1939	24	10,288	55,640
1940	34	13,000 estimated	70,000 estimated

The services provided under these programs in the various counties have included: practitioner care, necessary drugs, and emergency hospitalization. The decision as to what drugs are necessary in each case and which cases should be referred to the hospital is left with the physician.

The following are a few statistics relating to the 1939 activities:

Number of counties operating	24
Number of families involved	10,288
Number of individuals	55,640
Total office calls	47,267
Total home calls	13,857
Total cases hospitalized	476

The fees per family per year average approximately \$16.00.

The necessity of dental work has been very evident since the inception of the medical program. Numerous cases of illness which cause a strain on the medical program are directly traceable to faulty teeth. With this in mind, effort is being made to work out suitable plans for providing dental care.

Realizing the importance of ridding clients and their families of hookworm the Farm Security Administration cooperated with the State Health Department in conducting an eradication campaign in 10 counties during 1939. In these ten counties 7,196 were examined, of which 2,309 were positive.

A special sanitation program involving screening, improvement of water supply, and pit privies is to be conducted in 12 Alabama counties in 1940. In the remainder of the counties, allotments have been made for the construction of sanitary pit privies. The actual number to be constructed will depend upon the cost per unit for construction."

The plan is now in operation in some 34 counties and with varying degrees of success; and while sufficient statistical data are not yet available upon which sound conclusions may be based or definite recommendations for improvement made, it is felt that because of the importance of this program to our rural population and their physicians, an accurate study and evaluation of the program should be made during the current year by each county medical society now participating.

The Board, therefore, recommends that this study be made, into which are incorporated such suggestions for modification or improvement of existing conditions as experience may prompt and that copies of these reports be sent to the Chairman of the Association's Standing Committee on Public Relations and to the State Health Officer.

The Board's recommendation was adopted.

RESOLUTIONS

RESOLUTION BY DR. M. Y. DABNEY

Whereas, There is a growing tendency to patent drugs in the name of universities and foundations in connection with universities; and

Whereas, These patents are presented to the institutions by the discoverers; and

Whereas, The discoverers of the products are usually medical men; and

Whereas, The effect of the patents is to increase the price of the drugs because of the royalties imposed by the said foundations; and

Whereas, A considerable proportion of patients in need of the new products are prevented from buying them by reason of the necessarily high prices asked; and

Whereas, This hardship is imposed upon the needy public through the acts of the discoverers under the guise of foundations; therefore be it

Resolved, That The Medical Association of the State of Alabama condemn as unethical the patenting of drugs or medical appliances for profit whether the patent be held by a physician

or be transferred by him to some university or medical research foundation, since the result is the same, namely the deprivation of the needy sick of the benefits of many new medical discoveries through the acts of medical men; and be it further

Resolved, That copies of these resolutions be sent to the leading medical associations and journals, to the leading medical colleges of the United States and Canada, and to the secretaries of all the state medical associations as well as to that of the District of Columbia."

The Board recommends that the Association give approval to this resolution.

The resolution was adopted.

RESOLUTION BY DR. F. L. CHENAULT

Whereas, This Association, by law, constitutes the State Board of Health and has been entrusted with the general direction and supervision of the public health affairs of the State; and

Whereas, Because of this legal responsibility, this Association has, throughout the years, striven to serve the people of this State in a zealous and unselfish manner by giving freely of its time, its labours and its counsel to the cause of public health; and,

Whereas, Because of the enlarged and expanded activities now being conducted by the State Board of Health, the present housing quarters and facilities of the central health department are not only utterly inadequate and antiquated, but also constitute a distinct hazard to health, life and efficiency in the conduct of the scientific work for which it is responsible; therefore be it

Resolved, That this Association, speaking as the State Board of Health, directs the attention of the Governor, the Legislature and the people of this State to the urgent need for proper, safe and modern housing and laboratory facilities for the State Department of Public Health on the Capitol Grounds in Montgomery, commensurate with the important duties performed and expected of this department and that prompt action be taken looking to this end; and be it further

Resolved, That copies of this resolution be furnished the Governor, the members of the Legislature and to the newspapers of the State."

So great is the need for more commodious and up-to-date housing facilities for the State Health Department, in whose upbuilding this Association has played such a vital part, that this Board, at its December 1939 meeting, adopted a similar resolution, urging that such a step be taken by the State at the earliest practicable time.

One need only visit the bureaus of the State Department of Health to appreciate the crowded conditions under which the staff members work. Further, the building is a very real fire hazard—a matter of serious moment when it is considered what valuable records are housed in the structure—records that could not possibly be replaced.

The Board, therefore, has pleasure in recommending that the Association give full endorsement to this resolution.

The resolution was concurred in.

Part I of the Board's report was adopted in its entirety.

PART II

REPORT OF THE BOARD OF CENSORS AS A
BOARD OF MEDICAL EXAMINERS

In this field of its activities the Board submits the following report:

Total number examined June 20-22, 1939	14
Certificates granted	6
Certificates to be granted after one year of satisfactory internship	7
Certificates granted by reciprocity	56
National Board of Medical Examiners	3
Certificates granted chiropodists	36

EXAMINATION APPLICANTS GRANTED CERTIFICATES OF QUALIFICATION

Bazar, Philip Saul Bones, William Edward
Bryant, Gordon G. Fader, David Earl
Hall, James Tidwell Patterson, Richard Reginald

CERTIFICATES TO BE GRANTED AFTER ONE YEAR
OF SATISFACTORY INTERNSHIP

Anderson, Henry Luther
Chenoweth, Beach Mead, Jr.
Peterson, Edward James
Stubbins, Sam Gaines, Jr.
Carmichael, Josiah Clayton
Cooley, Beamon Sherley, Jr.
Pope, Madison Reeves

RECIPROCITY APPLICANTS RECEIVED APRIL 1939-
APRIL 1940

Abercrombie, Joseph—Md.	May 11, '39
Anderson, William O.—Ark.	June 30, '39
Applebaum, Samuel L.—Tenn.	Aug. 16, '39
Askew, William—Mo.	June 16, '39
Austin, John H.—N. B. M. E.	Apr. 12, '39
Barnes, Rhett G.—La.	Feb. 9, '40
Beatty, Thomas D.—Wis.	Nov. 27, '39
Blake, Robert F.—Tenn.	Feb. 20, '40
Bobo, James E.—Tenn.	Feb. 9, '40
Brawner, Leon E.—Ga.	Apr. 17, '39
Bruce, Robert G.—Tex.	Apr. 19, '39
Burns, C.—Ark.	Jan. 22, '40
Cain, John R.—Va.	Mar. 20, '40
Cameron, Robert A.—Miss.	Nov. 8, '39
Chappell, William H.—W. Va.	Aug. 15, '39
Climo, Henry J.—Ohio	May 3, '39
Coats, Edward C.—N. Y.	July 17, '39
Davidson, James S.—La.	Dec. 27, '39
Dillon, J. F., III—Mo.	July 10, '39
Dodson, Charles A.—Wis.	June 16, '39
Gelperin, Jules—Ohio	June 26, '39
Goldstein, Maxwell E.—Ill.	Sept. 7, '39
Griffin, George W.—La.	July 15, '39
Hauck, Richard F.—Ga.	Sept. 22, '39
Haun, John F.—Tenn.	Dec. 26, '39
Jackson, David E.—Tenn.	Feb. 28, '40
Johnson, Dexter D.—Miss.	Apr. 17, '39
Kaiser, Elias N.—N. Y.	Mar. 21, '40
Lafferty, Charles R.—La.	Mar. 4, '40
Lavender, Belton N.—Tenn.	Dec. 18, '39
Lawson, Charles L.—Tenn.	Oct. 24, '39
Martz, Harry—N. Y.	Oct. 26, '39
McCoo, Mary, Col.—Tenn.	Nov. 2, '39
McCoo, Wayman, Col.—Tenn.	Nov. 2, '39
Naugle, Thomas C.—Miss.	May 30, '39

Nelson, William B.—La.	May 25, '39
Noble, William—Cal.	Feb. 9, '40
Olds, Bomar A.—Ga.	Mar. 29, '40
Parker, Delmer F.—Ore.	Sept. 5, '39
Parker, Paul H.—Miss.	Jan. 26, '40
Perry, Alton R.—Tex.	Mar. 4, '40
Rock, Robert E.—Minn.	Feb. 10, '40
Rothschild, J. E.—La.	June 12, '39
Rowe, Mason C.—Va.	Sept. 18, '39
Rumpanos, S. N.—N. B. M. E.	May 30, '39
Sackett, Walter W.—Mo.	Aug. 29, '39
Sellers, William L.—Mo.	Aug. 16, '39
Settle, Roy J.—S. C.	Feb. 25, '40
Silberman, Donald J.—Md.	Aug. 16, '39
Smith, John Sam—Ky.	Mar. 6, '40
Thomas, Paul Jasper—Tex.	June 16, '39
Toole, Arthur F.—Penn.	June 5, '39
Van Wezel, Norman—Ohio	May 5, '39
Venning, Edward W.—Va.	June 30, '39
Warren, Claude M.—Ky.	Nov. 20, '39
Weinberger, Jacob—N. B. M. E.	June 5, '39
Wiygul, Charles H.—Ga.	Aug. 21, '39
Woods, Arthur W.—Ill.	Jan. 18, '40

CHIROPODY AMENDMENT TO MEDICAL PRACTICE ACT

At the 1939 meeting, this Association approved a proposed amendment to the Medical Practice Act which would authorize the State Board of Medical Examiners to issue certificates of qualification to reputable and trained individuals seeking to practice chiropody in this State.

This proposed amendment, after its introduction into the Legislature, became law and was approved by the Governor September 21, 1939. In keeping with the provisions of the law, the State Board of Medical Examiners has drafted rules and regulations to govern the conduct of this added responsibility and has issued, without formal examinations, but only after careful investigation, thirty-six certificates to the following individuals in this State to engage in chiropody:

Alumbaugh, Harris Tilford, Gadsden
AuCoin, William John, Mobile
Bauer, Marie Hermes, Birmingham
Benitez, George W., Anniston
Blotzer, Ellen Louise Huffman, Mobile
Blotzer, John Sheldon, Mobile
Blount, Ada, Colored, Birmingham
Carlisle, Alexander Randolph, Montgomery
Carter, Harry Shipley, Florence
Clark, George Elwood, Birmingham
Coleman, Stephen Nelson, Dothan
Cooper, John Marvin, Birmingham
Crowley, Coy Hiram, Birmingham
Crowley, Gentry Ballew, Huntsville
Danieis, John Edgar, Montgomery
Davis, Edith M., Birmingham
Draper, William Loyt, Birmingham
Edwards, Charles H., Birmingham
Huckabee, William M., Birmingham
Kazian, Robert Vahram G., Birmingham
Leighty, Fred Granville, Birmingham
Miller, John, Mobile
Nisbet, Frank Taylor, Florence
Oxford, Herman Ross Arnold, Tuscaloosa
Pearson, Jim, Colored, Sterrett
Pearson, Joe Price, Colored, Sterrett
Peterson, Bessie Cook, Colored, Birmingham

Plevine, Erich Herman, Birmingham
Plevine, Viola De Viso, Birmingham
Riccio, Peter Domenick, Birmingham
Rollings, Harry Hartupee, Montgomery
Sealy, Ariel Lewis, Montgomery
Sealy, Elizabeth Pepperman, Montgomery
Watson, Herstynne Ryan, Gadsden
White, Juddie Benjamin, Birmingham
Wright, Thomas Leolin, Selma

Part II of the Board's report was adopted.

PART III

REPORT OF THE BOARD OF CENSORS AS A STATE COMMITTEE OF PUBLIC HEALTH

J. N. BAKER, M. D.
State Health Officer

To the Members of The Medical Association of the State of Alabama, sitting as a State Board of Health:

I have the honour, as your health executive, to submit herewith my annual report covering the various activities of the health department during the past year, which, when approved by you, will constitute the department's official report to be transmitted to the Governor of this State. In the report now being submitted to you, effort was made to briefly epitomise the principal activities and expansions of the department, thereby giving the interested reader the bare skeleton of the major and sundry activities engaged in by this department. A more detailed account, presented by the several administrative divisions, will later be incorporated and published in the annual report of the department.

FOREWORD

During the year 1939, just passed, this State experienced no visitation of an epidemic of such extensive nature as to call forth wide-spread effort for control. One explosive outbreak of malaria in the early summer, and sharply limited to the Lake Bankhead region in North Alabama, caused considerable concern to the people within the area and also to the health department, because of complicating administrative factors bearing on the application of control measures. Through the aid of the Governor these measures were promptly applied and the outbreak brought under control. This incident is cited largely to show the need for proper organisation and prompt action when danger threatens.

During the closing months of 1939, influenza of a non-malignant type, which carried over into the early months of 1940, became quite prevalent at many points throughout the State. Neither in incidence nor in severity, however, did it approach the widespread epidemics of 1917 and 1918. From the standpoint of health and in the main, as set forth under the next heading, "Trends in Vital Statistics," Alabama experienced a most favourable and encouraging year.

The year 1939 was also a "legislative year"; in fact, since the financial crashes of the early thirties almost every year has been such, with

many "extra sessions," in frantic effort to devise means and ways for carrying on the State's business in the face of steadily shrinking revenues. In 1932 we witness the passage of the *Budget and Financial Control Act* providing for the proration of certain "non-essential" appropriations, in which was included health, and also reducing the appropriation to the health department by forty per cent—from \$686,000 to \$430,000. For several years, because of this proration, even this reduced sum never became available. During these years and under these circumstances, not only could no thought be given to expansion, but many needed health activities had to be drastically curtailed. Succeeding legislatures, in the meanwhile, set about to provide additional revenues for governmental purposes; and upon the advent of the 1939 Legislature an income tax, a sales tax and a liquor tax had been enacted into law, which have materially contributed to a firmer stabilisation both for the expansion of existing important activities, such as health and education, and also for the creation of new governmental services to meet changing conditions. In 1935, the Federal Social Security Act became law, which, among many other things, made concrete provisions for federal financial participation with states in the much needed, but long-neglected field of public health. This move, on the part of our national government, was portentous, in that it reflects the first recognition for joint action—federal, state and local—if adequate public health protection is to be assured throughout our country as a whole. In this Act, too, effort was made to preserve, as far as possible, the sound principles of local autonomy; to create a more closely integrated copartnership of governance at the several levels in order to stimulate recognition of the need for such services, as well as to speed up their efficiency and productivity. In short, to aid states and their subdivisions in the performance of their responsibilities in a field with which they themselves were unable to cope alone.

Alabama's health department gladly welcomed the extension of this aid and was enabled not only to recapture the ground lost during the worst years of the depression, but also to make a beginning in certain needed new fields of endeavour. In the closing months of 1937, it reached the long-sought goal which it had set for itself of providing for each of Alabama's sixty-seven counties full-time health service. The floundering, blundering, experimental period in health organisation having been passed, Alabama's health department now stood ready for efficient performance. Also, an aroused public interest as to the need and value of basic health services in the building of community life was taking a firmer and deeper root throughout the State at large. For these reasons it was that the health department, solidly backed by its State Board of Health, importuned the Legislature for a moderate increase in the present reduced state appropriation for health services. The legislative attitude, while quite sympathetic and appreciative of the present performance of this department, was that the State's resources, even though substantially reinforced through the added taxes above mentioned, would permit of no further increases for health

work, other than an extra \$25,000, conditional upon approval of the Governor.

While the health department would not presume to assume a dictatorial attitude regarding the methods of expenditure of the State's resources, it does feel that it is its duty and within its proper sphere to present to the Legislature a clear picture of the State's health needs, together with suggested plans for solution and the estimated amounts necessary for accomplishing the ends sought. This was done; and while for the moment the anticipated expansions cannot be undertaken, it is heartening to observe the belated responses now being made by legislatures and governments to the steadily increasing demands of society for fuller and more scientific health protection. Consequently, if present happenings are being correctly interpreted, one may feel more optimistic for the future; and that public health, henceforth and for the first time, will take its rightful place among other important governmental activities, such as education, welfare, highways or flood control.

TRENDS IN VITAL STATISTICS

Births: In 1939 there were 62,759 births; the provisional birth rate (21.3 per 1,000 population) was slightly less than the rate recorded in each of the two preceding years.

Stillbirths: Stillbirths totaled 2,614; the provisional rate (40.0 per 1,000 total births) was the lowest recorded in 16 years.

Deaths: There were 28,821 deaths and the provisional rate (9.8 per 1,000 population) was the lowest since the State was admitted to the Registration Area in 1925.

There have been fluctuations in the death rate from year to year, but the general trend has been downward. Had the provisional rate of 1939 prevailed in 1925, there would have been 24,580 deaths recorded instead of 29,112. A saving of more than 4,000 lives would have resulted in a single year, or a cumulative saving of 42,344 lives over the 14 year period (1925-1938).

The low death rate from all causes is reflected in the favourable picture presented by death rates from specific causes. There have been no marked increases in rates over last year and most causes show a decided decrease.

Infant Deaths: Infant deaths numbered 3,742, the smallest number since 1921. The provisional death rate (59.6 per 1,000 live births) was the lowest on record.

Deaths from Childhood Diseases: Most of the diseases which are particularly fatal in childhood showed a decrease in rate over last year. The rates for diphtheria (2.8 per 100,000 population) and diarrhea and enteritis under 2 years (13.3) were the lowest on record. The rate for whooping cough (5.7) was lower than for the past two years. The rate for measles (2.0) was less than half the 1938 rate. Scarlet fever with a rate of (0.5) is slightly lower than last year. The rate for this disease has shown little change since 1934, fluctuating from 0.4 to 0.6. The rate for poliomyelitis (0.5) was slightly lower than in 1938.

Deaths from Other Important Causes: The rates from tuberculosis, all forms, (52.8) and for typhoid (1.6) reached an all-time low. The rates from homicide (15.9) and appendicitis (8.9) were the lowest since 1920. The malaria rate (6.9) was lower than in 1938 and only slightly higher than the rate of 6.7 in 1932, the lowest recorded. Pneumonia, with a rate of 65.9, showed a 13 per cent decrease over the provisional rate of 75.9 for 1938. Although the rate for influenza (33.0) was higher than for the previous year, it was lower than in either 1936 or 1937. The rates for syphilis (14.8) and nephritis (71.0) were the lowest in several years. The rate for pellagra (9.6) was the lowest since 1935. Cerebral hemorrhage (74.9), diabetes (11.7), accidents and other external causes (excluding homicide and suicide) (65.7) and all puerperal causes (55.8 per 10,000 births) showed rates slightly lower than the corresponding rates for 1938, while the rates for cancer (57.7), heart disease (165.3) and bronchitis (1.9) were practically the same as for the preceding year. Motor vehicle accidents (21.0) and suicide (7.8) had rates slightly higher than the provisional 1938 rates.

RESEARCH STUDIES AND DEMONSTRATIONS IN THE FIELD OF PUBLIC HEALTH

Gratifying progress has been made during the current year of the three special studies which have been in operation in Alabama for the past two or more years; these deal with: (a) Rabies Control; (b) Epidemiologic Studies in Tuberculosis; and (c) Studies in Administrative Practices. The progress made in each of these fields is briefly set forth below:

RABIES STUDY

A study of the efficacy of canine vaccination against rabies has been given special attention. The first step in this study has been directed towards an answer to the question regarding the antigenic value of inactivated, phenol treated vaccine when administered subcutaneously in one injection. A study of the literature on this subject shows a great diversity of opinion on the part of various investigators as to the value of the single subcutaneous injection of a phenol treated vaccine. One author states: "The results of experiments in general are irregular and show not only meager immunising power of vaccines, but little superiority of one preparation or procedure over another." Others claim varying degrees of protection afforded by vaccination but in no instance in the experiments where dogs are used as the test animal are the groups tested of sufficient size to give results which are statistically significant.

Over 100 dogs vaccinated by the Montgomery County Rabies Inspector according to the method approved by State law have been tested with dog brain street virus inoculated intramuscularly. Over 100 unvaccinated control dogs were inoculated with dog brain virus in the same manner and amount. The results to date show 24 per cent of the vaccinated dogs developing rabies while 54.5 per cent of the unvaccinated controls died of the disease.

This experiment does not give a measure of immunisation by the above method but does show that the vaccine given as indicated does offer protection.

It is interesting to note that 89 unvaccinated stray dogs inoculated in the same manner showed a high degree of natural immunity, only 54 per cent coming down with rabies.

With this experiment as a base line, an effort will be made to determine the comparative value of a single injection of chloroform treated vaccine and the intraperitoneal rather than the subcutaneous route of vaccination.

The rabies virus is being maintained in tissue culture. Two strains of virus obtained from human sources are being passed in one-day old chicks. An attempt is being made to produce a mutation in this manner. Such a changed virus might prove of value in preparing a canine vaccine.

Virus titre and distribution has been determined in two human cases which came to autopsy.

A clinical study of dogs dying of rabies shows a great variety of symptoms. From the results of this study one is impressed by the absence of uniformity of the symptomatology. This means that many cases of rabies in the dog are undetected and consequently undiagnosed. In this connection, an examination of the brains of 477 dogs going to the Birmingham incinerator for destruction showed 25 or 5.2 per cent positive for rabies. These animals were not suspected of having died of rabies and a considerable number were from veterinary hospitals in the city. When a dog dies with a diagnosis of rabies in a veterinary hospital, the brain is routinely sent to the State Branch Laboratory for examination. Of 533 dogs killed at the city pound after the usual period of quarantine, five were positive for rabies. These animals showed no recognisable symptoms of the disease before death.

EPIDEMIOLOGIC STUDIES IN TUBERCULOSIS

These studies were undertaken jointly in 1936 by the Alabama State Health Department, the Tennessee Valley Authority and the United States Public Health Service to investigate the nature and causes of the apparent differences in the amount and kind of tuberculosis in North Alabama, Middle Tennessee and Kentucky, as compared with South Alabama and the Southern Coastal Plain, generally. The tuberculosis death rate in North Alabama is generally three or four times as high as for the southern counties, and even higher rates occur in Tennessee and Kentucky.

Typical counties, one in the low rate region, Coffee County, Alabama, and one in the high rate region, Giles County, Tennessee, were selected for study. Living conditions, diets, soil, water, foods, sunshine and weather have all been studied intensively in these two counties.

Living conditions, crowding and diet are all poorer in Coffee County in spite of its low tuberculosis rate. Environmental studies reveal more calcium and phosphorus in the soil and in the plant foods of Giles than of Coffee County and suggest other differences. These particular phases

of the problem are being investigated in the Tennessee Valley Authority laboratory at Wilson Dam, Alabama.

A tuberculin and x-ray survey of the two counties revealed a large amount of pulmonary calcification in the high tuberculosis rate area. In order to determine the relationship of this high incidence to the limestone basin which extends through Middle Tennessee and Kentucky, x-ray surveys were made of school children in sixteen additional counties in the Southeastern United States including Shelby, Cullman and Morgan Counties, Alabama. The results of these surveys, presented at the annual meeting of the American Public Health Association in Pittsburgh, indicate that calcifications are much more apt to occur in the limestone regions. Whether this indicates a higher incidence of primary tuberculosis, a greater tendency of the primary complex to calcify in the presence of abundant limestone and perhaps other factors, or whether many of these calcifications are due to causes other than tuberculosis is now being investigated.

In addition to this line of study, a comparison of the effect of household contact with a known sputum positive case of tuberculosis in the low and high tuberculosis rate regions is being carried on. The families of 75 such cases distributed among ten counties in South Alabama have been interviewed as to history and environment, the members of the household tuberculin tested and x-rayed. Although this is the type of work being carried on by the state diagnostic service and the county health departments, this special work carried on full time has resulted in the bringing in for examination 134 contacts that had not previously been reached by the regular program, at the same time sparing the energies of the county health department personnel for other important work.

The studies are continuing along the above described lines.

STUDIES IN ADMINISTRATIVE PRACTICES

The East Alabama Health District, organised in 1938, was made possible by grants-in-aid from The Commonwealth Fund and Rockefeller Foundation. It is intended that this summary report will indicate trends and the degree of progress toward the original objectives in 1939.

To facilitate a review of district organisation, functions, etc., a few pertinent facts are set forth.

(1) The district was created to permit of an administrative study of some problems considered to be of paramount importance in the Alabama health organisation.

(2) Seven counties, with a population of approximately 212,000, each with a health department comprised the original district (Bullock, Chambers, Lee, Macon, Randolph, Russell and Tallapoosa).

(3) Objectives:

(a) *Provision of specialistic services to county health departments* in the fields of tuberculosis, venereal disease, infant and preschool hygiene, dental hygiene, environmental sanitation, nurse advisory service, and lay group education. To determine how each service can best be applied, its intensity, and the results which might be rea-

sonably anticipated. The services are both advisory and consultant in nature.

(b) *To study and improve health practices and procedures.* Accurate appraisal of health problems in each county and to formulate an approach to their solution.

(c) *Training of personnel* required that adequate facilities for observation of accepted health practices be made available.

County Personnel in the East Alabama Health District

Quite a few changes in county personnel have occurred in the area. These in large measure were occasioned by (1) an attempt to provide better qualified personnel in the various counties and to achieve better co-ordination of effort, (2) the necessity of providing additional nurse personnel to more adequately utilise the advisory services provided by the district staff (see note), and (3) an expanded and diversified program in Macon County.

Changes in the District Area

In attempting to carry out the provisions for additional nurse personnel, local monies were needed. Tallapoosa County was considered to be financially able to increase its appropriation and since this could not be arranged, Barbour County was substituted. Tallapoosa County continues to receive, on a very restricted basis, the advisory services through the district organization, particularly tuberculosis and pediatrics. This change resulted in a total population decrease for the area of approximately 5,000.

Note: The Commonwealth Fund participation in 1939 was contingent upon the provision of a minimum of two nurses in each county of the district as of January 1st. The Fund in return was desirous of having one county staffed with what is considered to be a more adequate nursing setup. Lee County was selected and two nurses were added at Commonwealth expense during 1939. One of these was taken over on local and state monies January 1, 1940 and the other will be supported during 1940 and 1941 by the Fund.

a. Advisory Services

a1. Tuberculosis Diagnostic Service

In the initial review of families early in 1938, 230 families were discontinued from supervision leaving 468 under supervision. This was based on the objective to limit the families supervised to those most urgently in need of this service. The group which was deemed the most important as indicated by study findings in Lee County consisted of families in which sputum positive tuberculosis cases still lived and those in which the contact had ceased during the preceding two years. In 1939, 510 families, of whom 67 per cent were examined in clinic facilities, were supervised and 132 families were discontinued.

Provision, also, had been made in the district plan for reexamination of cases and contacts at intervals which were determined by factors such as prior contact and age distribution in families. Four indices were utilised in determining the successful trend of the program, namely,

(1) New cases which occurred in families under supervision should be discovered in the minimal or moderately advanced stages,

(2) Patients referred by physicians and health departments should also be in the early stages of the disease,

(3) New cases occurring in the area should be found mainly in known tuberculous families or in families newly arrived in the area,

(4) That the reporting of tuberculosis be quite complete and the number of persons reported after death be reduced to a minimum.

A review of records by counties showed that, as judged by the above indices, progress was quite definite in 1939.

(1) Only 21 new cases occurred in known families and of these 13 or 62 per cent were minimal, 3 or 14.3 per cent were moderately advanced and 5 or 23.7 per cent were far advanced.

(2) Of the 102 cases examined in the clinic for the first time 61 or 59.8 per cent were referred by physicians and 41 or 40.2 per cent were referred by health departments. These 102 new cases reviewed as to stage of disease showed 37.3 per cent minimal, 34.3 per cent moderately advanced and 28.4 per cent far advanced. Of the 102 cases 53 were sputum negative.

(3) The new cases occurring in the area were mainly in known families.

(4) During 1938 and 1939 only 19 cases of tuberculosis were reported after death out of a total of 146 deaths.

Utilisation of Diagnostic Service

In 1938-1939 a total of 33 clinic points were established throughout the area. The largest number in any one county was nine and the least in any county was one. Local factors, including the availability of electric current, influenced the health departments in their selection of clinic points, and it is planned to increase these facilities in 1940. While 70 per cent of families and contacts have been examined, it is believed that a still better piece of work can be done with better organization.

With the opening of the new hospital a change in procedure of clinic operation was indicated to permit Dr. P. W. Auston sufficient time to act as Medical Director. The clinic nurse conducted advance clinics taking history, and making the initial x-ray. In those cases indicated by positive x-ray findings or history, a follow-up clinic was scheduled for the physical examination of this selected group.

The following summary indicates the extent to which diagnostic facilities were utilised in 1939:

1. Number of examinations	1,381
2. Number of re-examinations	775
3. Number of referred patients	557
4. Total families examined	341
5. Total contacts examined	948

Hospital Facilities

The Batson Memorial Tuberculosis Hospital was completed and dedicated on June 11, 1939. This represented the peak in accomplishment for the year. In the first six months of 1939 there were recorded in the area 1,048 patient days in hospital while in the last six months 6,252 hospital patient days were recorded.

These facilities are available to all counties in the district but they have been most intensively utilised by the two counties sponsoring the hospital construction, Chambers and Randolph, and by Lee County.

The institution has received the support of all physicians and lay groups. It represents the best constructed and best equipped small institution for the care of tuberculous patients in the State. It is hoped to develop complete medical and surgical services to a maximum degree and to have the forty-five available beds filled with suitable cases.

Portable Cottages

The opening of the hospital vacated a good many of our cottages. Two cottages are now in use in Russell County, one in Barbour, one in Chambers, and one in Tallapoosa. The ones in Lee County are either in use by far-advanced cases or awaiting the return of their former occupants for post-sanatorium care. As has been previously noted, the portable cottage is an extremely useful item in our control program but with the availability of hospital beds, their use is even more limited.

Objectives for 1940

(1) To reduce the number of unexamined families, contacts, and cases, through a still better organisation of county program with the arranging of more chest clinics at regular intervals,

(2) To increase the use of facilities at the Batson Memorial Hospital by encouraging all counties in the district to appropriate or to raise money for the care of carefully selected cases,

(3) To further reduce the interval between diagnosis and hospitalisation,

(4) To continue the use of portable cottages and arrange for home isolation where feasible,

(5) To continue the drive toward our original objectives and determine by the end of the year the practicability of the present approach to the problem.

a2. Venereal Disease Control Advisory Service

As of January 1, 1939 there were in operation in the district venereal disease clinics at 17 points. Seven of these were medical society clinics, two health officer clinics and seven in Macon County on a special Rosenwald Fund project.

Federal funds were made available after July 1st and by the end of the year clinics were being held at about 46 points. In addition to funds for payment of clinicians' services in both treatment and diagnostic sessions, there was provided adequate equipment for 12 presumably permanent clinic points. In order that one may more clearly visualise the developments which have taken place during the year, it is advisable to describe them by individual counties.

1. Barbour—2 clinics were operated by the medical society on a poorly conceived financial basis from November 1938 to September 1939 and then discontinued.

2. Bullock—3 medical society operated clinics were run in 1939 but the original basis of procedure was not acceptable. These will be re-organised early in 1940 to conform to recommended procedure.

3. Chambers—Clinics were organised and equipped at LaFayette, Langdale and Fairfax.

4. Lee—Clinics were organised and equipped at Auburn, Loachapoka and Marvyn and the one in Opelika continued.

5. Macon—A special Rosenwald project operated rather indifferently through most of the year with changing personnel. The addition of a completely equipped truck unit provided by the United States Public Health Service permits of clinics to be held at about 30 points. A clinic point was organised and equipped for medical society operation in Tuskegee in the early fall. This new plan of operation has promise and should render a complete and effective service in 1940.

6. Randolph—2 health officer operated clinics continue and the clinic points were equipped.

7. Russell—1 individually operated pay clinic (\$1.00 per treatment) continues and 3 new medical society clinics were organised and equipped at Phoenix City, Seale and Pittsview.

A study of the many problems intimately associated with clinic organisation and operation continues. A modification of the experimental clinic record form prepared and used in this area was adopted for state-wide use in December and will be made available for use in 1940.

Two one-day institutes were held by Dr. Rock for the nurses in the district early in 1939. These were of real value but the lapse between institute and actual clinic operations was sufficiently long to allow considerable dissipation of the teaching values. It is hoped to repeat these and to capitalise on previous experience.

Definite progress has been noted in county records, office and clinic procedures, clinic organisation, etc. It is advisable, however, to delay analysis of many purely medical phases until the 1940 experience has been gained.

a3. Infant and Preschool Hygiene

In spite of the clearly defined objectives laid down early in the existence of the district, the progress made is not satisfactory to date. Many factors play a part in this slow development, chief of which is that health officers during 1938 and 1939 have not devoted sufficient time, interest, or promotion in this field of activity. Change of personnel in the district pediatrician also contributed toward the delay in accomplishment.

Well-baby clinics have been developed or stimulated in three counties, namely, Barbour, Lee and Macon. To further encourage development in the pediatric approach three of our health officers will be given a one month's course in pediatrics at Vanderbilt University on Commonwealth Fund Fellowships. This advantage is also extended to physicians in the district and it is believed that those who apply for pediatric instruction will ultimately prove a nucleus around which the program will revolve and receive a great impetus.

Preschool medical service showed a slight improvement over 1938 in three counties, a decrease of activity in two counties, and remained at a low ebb in the other two counties. Again it is believed that changing personnel, both district and county, contributed very appreciably to the lack of expected development in this field.

Consultations with physicians and educational activities remained at about the 1938 level. It will probably be easier to visualise our present status if we say 1938 and 1939 were not satisfactory to us but that 1940 will very definitely show improvement in all phases of pediatric activity.

a4. Dental Hygiene

The district dental advisor has been responsible for the dental examination of 16,716 preschool and school children in 1939. It is noted that considerably more interest has been exhibited by health department personnel in organization of the county dental program and in actual participation in classroom educational activities.

The educational forces have received the program enthusiastically and where they have participated in follow-up work, and assisted in arranging for defect correction, marked progress is evident. Through improved knowledge on the part of the teachers the educational effort in the schools has been productive of better results.

Dr. Morrow made a total of 284 classroom talks, 252 white and 32 colored. In the 1939 program 189 schools were visited, 160 white and 29 colored. All dentists in the area have been repeatedly visited and the majority of them have participated in school examination procedure.

It is believed that the majority of white children in the upper economic situation have had their dental defects corrected. All white school children have been given pertinent facts relating to proper dental care. Many of the children who could not be classed as indigent, but could not afford regular dental fees, have shown a real desire for dental service and, in the few instances where it was provided, have utilised it to a surprising degree.

The problem of the Negro school children remains practically unimproved because of their economic status. Much interest has been shown in care of the teeth, and the essentials of an adequate diet but financial outlay required for corrective procedures has proven to be a severe barrier to progress. Negro teachers cooperate enthusiastically and would, with some real assistance, accomplish a great deal.

For definition of the dental problem in the district, reference should be made to the report compiled early in 1939.

a5. Environmental Sanitation

Services through June 30, 1939 were rendered by the area engineer from the central office. Mr. C. W. White was appointed for the district July 1st and made excellent progress during the remainder of the year.

A critical evaluation of problems in the field of environmental sanitation was made of each county, surveys were required where indicated, and available facts were obtained and tabulated. Based on this review a program was outlined which was designed to attain better organization in the conduct of all activities and to arrive at a reasonable balance in accord with the local problems. It is believed that with the approach made in 1939 much may be expected in improved urban and rural sanitation, sanitation of school facilities and better program planning in 1940.

The demand for consultant service in the highly technical fields of water supply, sewage disposal, etc., was rather restricted but all requests were complied with. Coordination of Work Projects Administration projects on sanitation, typhus control, and malaria control was made possible due to the experience of Mr. White in this field.

a6. Nurse Advisory Service and Lay Health Participation

The effort put forth by the nurse adviser continued on bag technic, home and clinic procedure, program planning and staff education. The increase of nurse personnel in the counties, some of whom were inexperienced, and changes in personnel called for intensive participation by the advisory nurse in developing better organization of nurse activities, creation of nurse districts, supervising the activities of new and old nurse personnel, etc.

While an organization plan for lay health councils is in the process of development in four counties, yet the major responsibility rested on the nurse adviser to develop through nurse personnel a better appreciation of the value of community education and active lay participation. Nine new health centers were inaugurated in 1939 mainly through increased community interest, and a rather large number of group meetings for prenatal and infant activities were arranged at convenient points.

b. Study of Health Practices and Procedures

1. An appraisal was made of each county in the district during the months of April, May and June. The results and recommendations are outlined in individual reports prepared and previously submitted. Preparation for these appraisals required the Statistical Clerk to spend a great deal of time in the counties to assist in classification and tabulation of data for preceding years.

Scores ranged from 325 to 513 and at least indicated where the individual health departments needed to do a more intensive piece of work to materially affect a major problem. The same method of report preparation was used for each county as it was believed that uniformity of approach would be helpful to the entire district.

Inadequate medical service, inadequacy of nurse personnel and a gross lack of organized approach represents the major findings of the first appraisal. Free discussion at the time of appraisal and follow-up conference of health officers and secretaries, it is believed, will result in considerable improvement in 1940.

2. A study of the use of the new record manual and its content of new records and reports was made by the Statistical Clerk in the fall of 1939. The review was particularly helpful to both district staff and county personnel as the degree of lack of uniformity and the detailed handling of records was presented in report form for study.

c. Training of Personnel

After a period of preparation during 1938 both in the district organization and counties in the district it was agreed early in 1939 that developments justified the inauguration of a training school. Miss Pearl Barclay was employed as of January 1st to develop and inaugurate training

of nurse personnel and Mr. C. W. White, employed July 1st, was vested with similar responsibility for sanitation officers.

Courses of instruction and procedure were prepared for both groups. During 1939, 10 nurses, 5 sanitation officers and 7 health officers spent 587 days at the training base in Lee County and in observation and experience activities in Chambers, Macon and Barbour Counties.

Mrs. McCraney was employed as of October 1st to succeed Miss Velma Owen as District Nurse Adviser. In an attempt to develop a training center which can be accredited and affiliated with nursing schools, etc., it is necessary to have fully qualified staff personnel. Mrs. McCraney was so classified and Mrs. Jayne, employed on the Lee County staff as of February 1st, also has her certificate in public health. During 1940 it is hoped that the base may be an accredited center.

DEMONSTRATIONS

CULLMAN COUNTY

Nurse-Delivery Service

The home delivery nursing service was continued in Cullman County as a specialized nursing activity through September 30, 1939. The duties of these nurses include:

(a) Home visiting to get in touch with prospective mothers and assisting them in planning for confinement; assisting physicians at time of confinement (nurse accompanies physician to the delivery at time of confinement and answers only those calls made by a physician); teaching mothers and attendants regarding maternal and infant care and how to carry out instructions of physicians; rendering a generalised nursing visit when in the home of a maternity case and the occasion arises.

(b) Assisting at maternity clinics.

It was learned that two nurses could not do the home visiting necessary to give adequate prenatal, postnatal, and infant nursing care with the heavy delivery load that was being carried. The two county health nurses on the generalised public health nursing service did not have time to make the necessary home visits. The maternity cases, therefore, were not getting the amount of public health nursing that was considered essential to make the home delivery service satisfactory. A third nurse was added to the home delivery service October 1, 1939 and she was placed as chief nurse of the Cullman County Health Department with the two nurses who had been doing generalised nursing and the three home delivery nurses rotating services. Under this plan, each of the five nurses does generalised public health nursing and serves on the home delivery service. She remains on call for assisting physicians at deliveries for forty-eight hours and promotes generalised nursing program during the remainder of the time she is on duty.

The nurses assisted physicians at 518 deliveries during the year. The service continued to be highly appreciated by the medical profession and increased in popularity with the public. It is no longer a problem of the health department to seek persons to whom maternity services may be

rendered but a question of how to limit the number of patients so that adequate services can be rendered. Maternity patients are requesting the service and some physicians have reported that it is practically demanded. Physicians have been advised by expectant mothers if they did not use the services of the home delivery nurses another physician would be called.

MACON COUNTY

Nurse-Midwife Delivery Service

An appropriation from the Rosenwald Fund was used in Macon County for the promotion of a project in maternal health utilising the services of two nurse-midwives. These nurse-midwives are former county health nurses who graduated at the Lobenstine School of Midwifery in July 1939. The Macon County Board of Health approved the project and authorised the county health officer to be the director and the personnel began to function in August 1939.

Two beats were selected in which to institute the project. About 160 births are attended annually by registered midwives (grannies) in these beats. No physician lives in either beat and only one or two births are attended by a physician each year in both beats. The population of Beat No. 4 is 76 white and 3,067 colored, and of Beat No. 5 is 93 white and 1,760 colored or a combined total of 4,996.

Purpose

The purpose of the service which was agreed upon by all parties concerned in its sponsorship was:

(1) To make childbearing safer by rendering medical and nursing supervision to women during the antepartum and postpartum periods and to closely supervise midwife delivery care.

(2) To provide medical and nursing care for infants.

Procedure

(1) Maternity clinics are conducted every two weeks by a physician and a nurse-midwife. Antepartum and postpartum examinations are made and medical and nursing advice given at these clinics.

(2) The two nurse-midwives attend deliveries in response to calls from physicians, registered midwives, and cases registered at the antepartum clinics who live in Beats 4 and 5.

(3) The medical service by the resident physician and nurse-midwife service is gratis to all attended in the clinic and home. Persons admitted to the service include: known indigent cases, midwife cases and cases referred by local physicians.

(4) The hospital care for ten days costs \$10.00, plus transportation charges. The attending physician determines which cases are sent to the hospital for delivery.

(5) The nurse-midwives are available for teaching midwives in Beats 4 and 5 and other midwife groups at the request of the county health officer.

The obstetrician who is associate in charge of the Division of Maternal Hygiene and the pediatrician of the East Alabama Health District serve as consultants.

Expansion of Services

Plans for expansion of services and providing medical, nursing and hospital care for maternity patients, newborn infants and children in Macon County have been endorsed by the County Board of Censors and approved by the Children's Bureau effective February 1, 1940. Federal funds provided through the Children's Bureau by amendments to Title V of the Social Security Act will be used.

Purpose

The purpose of the expanded service is to increase the quantity of services now under way, and to extend specific maternal and child health services. Provision is made for medical, nursing and hospital care for medically necessitous maternity patients, newborn infants and children.

Procedure

Personnel:

(1) One white and one colored nurse will be added to the staff of the County Health Department. The white nurse will be chief nurse for all public health nursing activities in the county. Each of the three staff nurses, the two nurse-midwives and the Farm Security Administration nurse will have a district in which to work and they will do generalised public health nursing including the maternal and child health services.

(2) The obstetrician and pediatrician on the staffs of the State Health Department and East Alabama Health District will assist in the administration, conduct and supervision of the medical aspects of the program. They will also serve as consultants when needed.

(3) The resident physician of the John A. Andrew Memorial Hospital will conduct maternity clinics and attend deliveries at the hospital and abnormal deliveries in the home.

Clinical Services:

(1) Two additional maternity clinics will be promoted by the resident physician and four pediatric clinics will be conducted by the pediatrician on the staff of the East Alabama Health District.

(2) Out-patient clinics in pediatrics and obstetrics will be conducted at the John A. Andrew Memorial Hospital of Tuskegee Institute.

(3) Hospital care will be provided for maternity cases, newborn infants and sick children.

Other Services:

(1) The nutritionist on the State Health Department staff will assist in the development of the nutrition services in the MCH program.

(2) The County Department of Public Welfare will supply all social service rendered outside of that done by the county health officer and nurses.

JEFFERSON COUNTY

The demonstration services were continued in Jefferson County with the use of funds made available through the Children's Bureau by the Social Security Act.

Purpose

The purpose of the demonstration is to provide certain medical and nursing services to maternal and child health cases that are considered helpful to those persons with low income who otherwise

would likely not have an opportunity to receive such services. Furthermore, it is to demonstrate to the local people the need and practicability of such services in an effort to stimulate appropriating bodies to allocate certain funds for continuation of the program.

Scope

The scope of the demonstration services include: (1) generalised public health nursing with particular attention being directed toward maternal and child health activities; (2) prenatal, postnatal and child health clinics which are conducted by physicians and dentists at eleven health centers.

Professional and Lay Services

A physician or dentist and nurse are in attendance at each clinic. At the prenatal clinic the expectant mothers assemble prior to the arrival of the physician. They are instructed by the nurse regarding the hygiene of pregnancy. The physician examines and advises the expectant mothers. Those found to have syphilis are treated at the health center instead of being referred to the venereal disease clinic.

The dentists on the staff make dental examinations and do minor reparative work.

An obstetrician and a pediatrician serve as advisers and consultants in their respective specialties for the clinicians. Twenty-eight clinics for maternal and child health services were conducted each week at the health centers.

Lay people, chiefly women, have organized health center associations in the communities where the health centers are located. The associations supply space for the health centers and lay workers to assist in conducting the clinics. These lay workers do secretarial work, entertain children attending clinics and assist with the expectant mothers, particularly in preparing layettes. They also aid with the loan closets.

Expansion of Services

With a grant made by the Rosenwald Fund, increased services were made possible for indigent Negroes at the Slossfield Community Center in 1939.

About 50,000 Negroes live within a distance of two miles from the Slossfield Center. Maternity, child health, and chest clinics were being conducted at the Center prior to the addition of services which took place July 1, 1939.

The expansion at Slossfield Center included (1) equipment of a medical clinic building for diagnosis and treatment of cases of tuberculosis and venereal diseases, dental defects, and children's diseases; and (2) addition of an all-time Negro physician and part-time dentist. With this expansion the Birmingham Negro Health Association established headquarters at the Slossfield Center.

The equipment included (1) x-ray and facilities for collapse therapy, (2) materials and supplies for treatment of syphilis, (3) dental chair and instruments, (4) laboratory for urinalysis and examination of blood and pus smears, (5) conference rooms, and (6) offices and examination rooms.

Plans for the use of new federal funds provided by amendments to Title V of the Social Security Act were formulated for further expansion of the service at Slossfield beginning February 1, 1940 to include (1) increasing the quantity of services now under way, (2) extend specific maternal and child health services, and (3) to establish a demonstration of types of service needed to enlarge the scope of maternity and care of infants.

The following types of service will be used:

(1) Expansion of established maternal and child health programs.

a. Types of medical services added:

1. Two white physicians, an obstetrician and a pediatrician, chosen from the local medical profession will supervise the program and serve as consultants for a full-time Negro obstetrician and qualified local practicing Negro physicians. There will be a part-time dentist to render corrective and reparative services.

2. One maternity and one child health clinic will be added each week and there will be as many dental clinic sessions as one dentist on half time can service.

5. The building being used by the Negro Health Association will be converted into a ten bed maternity hospital. Major operative cases will be transferred to Hillman Hospital.

4. Home delivery service will be inaugurated. Local physicians will be paid a fee of \$10.00 for each delivery. A nurse and the Negro obstetrician will also attend each delivery.

b. Types of nursing services added:

1. One supervisory nurse and ten staff nurses to render hospital, clinic, home delivery, bedside care and generalised public health nursing services in the area.

2. Bedside nursing care for acutely ill maternity cases or sick children on a case by qualified registered nurses under supervision of public health nurses.

c. Postgraduate education:

1. Clinical courses are to be presented by the obstetrician and pediatrician for Negro general practitioners at the Slossfield Medical Center which is next to the proposed maternity hospital.

2. Lectures and clinics to be conducted for Negro physicians from other communities.

3. Opportunity will be offered later for postgraduate education and training in obstetrics and pediatrics for medical and nursing or other maternal and child health staffs of state and local health departments.

(2) Special demonstration of medical care in maternity and newborn infants.

a. The plan extends the maternity program of the Slossfield Health Center to include medical and nursing care at the time of delivery and during the puerperium, in their homes or in hospital by Negro physicians under the supervision of qualified obstetricians and by Negro nurses, under specialised obstetrical supervision.

Medical and nursing supervision in the antepartum period, limited nursing care during the puerperium and medical examination at the end of the postpartum period are now provided through the Slossfield Health Center and the County Health Department. Pediatric clinics, child

health conferences, and nursing follow-up are also being provided in the Slossfield area.

Hospital facilities for the care of maternity patients and newborn infants will be made available at the Slossfield Community Center. The hospital will be staffed with Negro physicians.

Twenty-eight Negro physicians do general practice in Jefferson County. Fourteen of these are serving in the several maternity and pediatric clinics in the county under the supervision of an obstetrical consultant and a pediatric consultant. Primarily the maternity program at Slossfield is one for teaching obstetric care and care of the newborn to local Negro physicians. It is planned that these teaching facilities will be later extended to Negro physicians throughout the State and in other states. Fifteen or sixteen of the Negro physicians practice for people living in the area.

Obstetric and pediatric consultants are available to aid general practitioners in hospital and home for indigent cases.

The Social Service Division of the Department of Health is available for determining eligibility for care and for planning for delivery etc.

b. A technical advisory committee is composed of the following representatives to formulate standards for proper care:

1. Senior obstetrical consultant (white)

Dr. James R. Garber

2. Junior obstetrician (Negro)

To be appointed

3. Pediatric consultant (white)

Dr. A. A. Walker

4. County Health Officer

Dr. J. D. Dowling

5. Consultant in hospital administration

Dr. C. B. Bray

6. Director of Slossfield Medical Center (Negro)

Dr. Walter H. Maddux

It is anticipated that this committee may later be extended to include representatives in the fields of nursing and social service.

Summary of Maternal and Child Health Activities in Jefferson County:

Maternity Service:

Cases given antepartum medical service	1,364
Cases given antepartum nursing service	2,978
Visits by antepartum cases to medical service and conferences	5,506
Field and office nursing visits to and by antepartum cases	8,746
Cases given postpartum medical examination	533
Cases given postpartum nursing service	1,151
Field and office nursing visits to and by postpartum cases	4,069

Infant and Preschool Hygiene:

Infant

Infants given medical service	1,777
Infants given nursing service	6,690
Visits to medical service and conferences	4,469
Field and office nursing visits	16,426

Preschool

Children given medical service	2,386
Children given nursing service	1,050

Visits to medical service and conferences	4,863
Field and office nursing visits	2,650

Dental Hygiene

Inspections by dentists or dental hygienists	101
Patients admitted to dental service	851
Visits to dental clinics	1,871
Dental clinic sessions for Negroes	41
Negro patients admitted to dental service	189
Visits to dental clinics by Negroes	327

VISITORS

The lag in the application of scientific knowledge to the control of the environmental diseases besetting mankind has been encouragingly on the wane during the past decade. The closing of this gap between knowledge and its practical application to human betterment is born of a groundswell of interest displayed both by the public at large and by governance. Our large urban centres, for very obvious and palpable reasons, have made the most rapid strides in attaining this end. However, Alabama, despite its rusticity and financial handicaps, has forged ahead to the completion of its state-wide health machinery to the point where each of its 67 counties now enjoy full time health service and with each being closely knitted into a well-organised central department.

For 25 years or more, this health structure in Alabama, now completed, has been in the process of building; and into it are incorporated certain happy and unique features which have figured importantly in the attainment of its present efficient and non-political status. Because of these features, extra-state, philanthropic agencies—particularly the Rockefeller Foundation, The Commonwealth and Rosenwald Funds—as well as the federal agencies interested in the public health fields, have aided financially and in other ways, in the building of this structure of which Alabamians may well be proud. Many of the basic health problems to be found in Alabama are likewise to be found not only in many of the other states of the Union, predominantly rural, but also in many foreign countries. All nations, all countries are, today, struggling to gain mastery over such common enemies of mankind as tuberculosis, venereal disease, typhoid, malaria, and a host of other communicable and preventable diseases. In order to learn something of the administrative details of Alabama's health machinery, the State Health Department is honoured to receive, each year, a number of visitors both from other states and from many foreign countries. One may readily see that such a wide range for interchange of viewpoints proves tremendously helpful to Alabama's Health Department as well as to the visitors themselves.

During 1939, 188 visitors have come from Africa, Brazil, Canada, Cyprus, Finland, Germany, India, Java, Mexico, Norway, Panama, Philippine Islands, Siam, Slovakia and Turkey; the United States Public Health Service, Children's Bureau, Tennessee Valley Authority, Farm Security Administration, and Biological Survey; American Public Health Association, American Medical Association, American Red Cross; Mil-

bank Memorial Fund, Rockefeller Foundation; several universities and colleges, and states.

DIVISION OF COUNTY ORGANIZATION

A state-wide conference in Montgomery, January 9 and 10, of health officers, nurses and sanitation officers of Alabama initiated the year's work. Guest speakers and their subjects were as follows:

W. K. Sharp, M. D.
Regional Consultant, United States Public Health Service,

Continued Opportunities for the Development of the Public Health Program in Alabama.

Roy J. Morton, M. S.
Assistant Professor of Preventive Medicine and Public Health,
Vanderbilt University,
Qualitative Objectives in Environmental Sanitation.

Edward F. Daily, M. D.
Director, Maternal and Child Health Division,
Children's Bureau,

Maternal Care in the Public Health Program.

John A. Ferrell, M. D.
Associate Director, International Health Division,
The Rockefeller Foundation,

The Need for Proper Health Organization at Local Levels.

E. L. Bishop, M. D.
Director of Health, Tennessee Valley Authority,
Some Health Implications of Regional Water Control.

W. S. Leathers, M. D.
Dean and Professor of Public Health,
Vanderbilt School of Medicine,

Factors Involved Concerning Qualifications of Health Personnel.

Frank G. Boudreau, M. D.
Executive Director, Milbank Memorial Fund,
New Health Frontiers

The conference was addressed also by the State Health Officer, and briefly by Surgeon General Thomas Parran.

Section meetings embracing the respective types of personnel occupied the afternoon sessions of both days.

What effect the conference had on the coordination of thought and effort in the field of county organization is a matter of conjecture, of course, though observation would seem to indicate it has a reflection in the spirit now prevailing among local personnel. Indeed, it appears that unity of purpose is more marked than at any time in the past; and that, with our now completed county organization, the outlook is encouraging for a more efficient state-wide health service.

This is being accomplished, in part also, by the integration of consultative services available to county health departments through the district medical adviser, nurse, engineer and inspector who are pooling their respective stores of knowl-

edge and experience for the benefit of those they are attempting to assist. This integration is noticeable particularly in the northern and eastern districts of the State and is a goal to be striven for early in 1940 in the remaining districts. It is the Director's recommendation, first, that the district medical adviser (Associate in County Organization) be vested, through the Director acting as an arm of the State Health Officer, with general administrative supervision in the case of the district nurse, engineer and inspector, with technical supervision remaining in the hands of the chief of the bureau to which the district personnel is attached; second, that those members of Central Administration operating in the general field of public health (as, for example, venereal disease officers and nurses) be fitted into the district pattern, as far as possible; and third, that members of the department in specialistic fields look to the district medical advisers for aid in planning and for indication of need of their services.

It is not believed to be a debatable point that the department's far-flung program will succeed in direct proportion to the degree with which these medical advisers understand it and are in sympathy with it. They are the members of the staff in most constant and intimate contact with the personnel of county health departments; and it is not inconceivable that by their attitude they can make or break an activity.

It is interesting to note that the foregoing recommendations, in their essence, were incorporated in a report filed by the Field Consultant Staff of the State and Provincial Health Authorities of North America after slightly more than a month's study of the administrative practices of the State Department of Health. This staff, composed of Dr. J. O. Dean of the U. S. Public Health Service, Mrs. Marion C. Henderson of the Children's Bureau, and Messrs. Sam A. Kimble and Robert Beaumier, on invitation of the State Health Officer, spent the period November 3-December 8, 1939 carefully reviewing not only administrative practices but also the state's record forms and the uses made of the forms by state and local personnel.

In addition to interviews with bureau and division chiefs in Central Administration, the staff conferred also with certain county health departments in order that local activities might be observed and a study of the application of records made. As a consequence of these contacts, a comprehensive report was filed with the State Health Officer, briefly summarized as follows:

1. Rearrange district boundaries wherever possible so that all advisers in a given area have conterminous districts and have field offices in the same location.
2. Realign working relationships so that the district medical advisers will have administrative supervision over the other district advisers.
3. Transfer the Division of Public Health Nursing to the Bureau of Administration.

Suggestions were made also regarding amendments to certain record forms and changes in the system of reporting, consideration of which and the summarized items will claim careful consideration in 1940.

A development of note, especially in the western portion of the state, is the establishment of branch offices—outposts as advocated in district conference two years ago. The placement of these outposts in communities some miles from the county seat seems a sound administrative procedure that will more quickly and surely carry the work of the county health department to points where it is most needed. It is beyond the realms of possibility for many to travel any great distance away from their circumscribed existences, even in search of health. If, therefore, through branch offices, outposts, health centers, or whatever one may choose to call them, a more extensive and economical service can be rendered, then the endeavor merits approval.

Finally, it should be recorded that the year 1939 brought into being improved offices for several county health departments. In the number are Autauga, Baldwin, Conecuh, Covington, Dallas, Escambia, Henry, Marengo, Pike and Sumter. Progress is being made toward new facilities in Blount, Houston and Macon, while in the case of several other county health departments proper places in which to function had been provided immediately before 1939. This last aspect in a picture of general wholesomeness in the field of county organization is indicative of a constantly increasing appreciation of the work of the health departments—State and local. Certainly there is no cause for pessimism.

DIVISION OF PUBLIC HEALTH EDUCATION

As in previous years, the work of the Division of Public Health Education in 1939 was devoted largely to cooperation with newspapers and the radio in the dissemination of health information, as it is felt that with a small staff, considerably more people could be reached, and reached much more often, in this way than through any other type of public health education program. At the same time, and whenever possible, other methods of informing the people of the State in health matters were employed.

The division issued 520 daily releases during the year, as compared with 463 in 1938. Each of these was made available simultaneously to the two Montgomery daily newspapers, the Associated Press, the United Press and the International News Service. No information is available as to the use made of those releases sent to the 21 daily papers outside Montgomery by the above-mentioned three news services, but indications are that these services welcomed this material, that practically all of it that was of state-wide interest was sent by wire to their subscribing papers, and that it was prominently published in these papers.

More definite information is available regarding the use made of these daily releases by the two Montgomery daily papers, however, as it has been possible to clip this material as it appeared from day to day and paste it in a scrapbook. The 1939 scrapbook contains 533 different clippings based upon these 520 releases, some of course being published in both papers. Thus the two Montgomery dailies published State Health Department releases at an average rate of one about every 17 hours during the year, including Sun-

days, holidays, vacation periods, etc., or more than two per working day.

The 520 daily releases issued during the year were devoted to 75 different general subjects which were felt to be of general interest to the lay reader.

The daily releases issued by this division average approximately 200 words each. Thus the 520 releases issued last year totaled about 104,000 words, or the equivalent of a larger-than-usual novel.

In addition to these daily releases, the director of the division prepared, for syndication by the Associated Press, a weekly state health chat of about 300 words. Thus these 52 articles totaled about 15,600 words.

A third form of material prepared especially for newspaper publication was the release issued in mimeographed form directly to the 146 weekly newspapers in the State and also to the 21 Alabama dailies published outside Montgomery. Like the daily releases, these average about 200 words each. The use of these releases has been gratifying.

The 52 regular weekly radio talks written during the year, averaging about 1,500 words each and totaling about 78,000 words, or the equivalent of an average novel, were devoted primarily to the diseases of particular importance to the people of this State, with special emphasis upon tuberculosis and the venereal diseases. Thirty-six different general subjects, such as tuberculosis, syphilis, tularemia, etc., were discussed, one or more talks having been devoted to each of them.

As a result of the discontinuance by the Work Projects Administration of the practice of supplying blank discs for making electrical transcriptions of these weekly radio talks, it was necessary to discontinue these transcriptions, which were used for rebroadcasting by other radio stations. It is hoped that they can be resumed in the near future.

Every radio talk is mimeographed immediately after being delivered. Copies are sent routinely to all county health officers, members of the staff of the State Department of Health, State Health Officers in a number of Alabama's sister-states, and a number of persons here and there in the State and elsewhere who have asked to receive them regularly. Copies are also kept on file in sufficient quantities to supply teachers, high school and college students, research workers, club women, newspaper writers and others who frequently write to the division for themes, theses, club papers, articles, addresses, etc. Thus these talks by no means exhaust their usefulness when they are delivered over the radio but, instead, comprise a permanent reservoir of information on the subjects they cover. At the end of the year 225 copies were being made of every radio talk delivered. It is often necessary to make additional copies to supply the demand.

A request was received some time ago from a school teacher for copies of these talks, and it was learned subsequently that they were being used for classroom instruction by two elementary school grades. Another person, especially interested in the welfare of Negroes, is now using these

talks to inform the colored people of her community in health matters.

Thanks to the excellent cooperation received from the information-disseminating agencies that have been mentioned, it is believed that health information collected and distributed by this division reached during 1939, and will continue to reach, practically every person in Alabama old enough and literate enough to read a daily or weekly newspaper or understand the spoken word as heard through a radio loudspeaker within the area served by the stations broadcasting these programs. Nor is this a hit-and-run variety of health education. It is a continuous thing, reaching the people of the State in a virtually unbroken volume. To reach all these people by any other means, even infrequently, would necessitate an expenditure many times greater than is now possible. Indeed, it is questionable whether it would be physically possible by any other methods to take health messages to all the people now being reached by means of the press and the radio, regardless of the amount that might be expended.

During the year the Journal of The Medical Association of the State of Alabama published nine book reviews and four feature articles that were written by the director of this division. A magazine article of his authorship was published in the March 1939 issue of "Good Housekeeping."

Thus, during the calendar year covered by this report the division issued, and the public heard and read in the form of radio talks, news releases, feature articles, state health chats, non-radio talks, etc. (exclusive of correspondence) approximately 225,000 words, the equivalent of three average-size novels.

BUREAU OF PREVENTABLE DISEASES EPIDEMIOLOGY

The 1939 tabulation of communicable diseases, as is to be expected, reveals some variations from previous years' records. The picture as a whole, however, is quite favourable in that diseases against which there are specific means of prevention showed satisfactory recessions in most instances.

Typhoid fever, which has been used as a measuring rod as to the effectiveness of public health work, set a new all-time low in cases reported. There were 302 cases reported as compared to 403 during the preceding year and as compared to 317 in the previous low year of 1937. These cases frequently occurred in familial groups but no extensive epidemics were recorded.

Diphtheria was another disease to set a new low record with 922 cases. Studies carried on in several counties revealed a rather high carrier rate in the grammar school population and this prevalence of virulent diphtheria carriers is undoubtedly one of the major factors in the continued high incidence rates in the State. A considerable number of the cases of diphtheria gave a history of having had an immunising agent in the past and it was apparent that the immunity conferred was not permanent in all instances. The decision was, therefore, made to change the

recommended method of immunisation from a single injection of alum toxoid to two doses of this same material, at intervals of a month, and to supplement this with a small stimulating injection at the time of entry to school. It is felt that this procedure will produce a more lasting immunity and fewer failures to protect.

Smallpox was reported in twenty-six patients. There have been very few cases of this disease recorded in recent years although vaccination is far from complete. Typhus fever showed a sharp upswing from 341 to 472. This disease is spreading to hitherto uninfected areas in the State while there was also some decrease in the amount of rat control work done.

Malaria showed an increase from 1938 but was not as prevalent as in several epidemic years. Influenza was very prevalent in March and April and a new wave made its appearance at the end of the year. The severity of these epidemics is reflected more in mortality statistics than in actual cases; but, as a whole, the type of the disease seemed to be mild.

Poliomyelitis was well within normal limits with forty-five cases—all of them of the sporadic type. Pellagra had fewer cases reported than in any previous year but it is necessary to follow this disease several years to determine its trend.

DIVISION OF VENEREAL DISEASE CONTROL

During the year 1939 there were reported 18,383 new cases of syphilis, a rate of 6.25 per 1000; 3,714 new cases of gonorrhea, a rate of 1.26 per 1000 and 59 new cases of chancroid, a rate of .021 per 1000. In comparison with 1938, this represents a decrease in the reporting of new cases of syphilis and a very slight increase in the reporting of new cases of gonorrhea. The decrease in the new cases of syphilis was slightly higher in the colored race than the white. This decrease may not be due to a decrease in the early cases, but is probably due to the fact that fewer late cases are coming under treatment for the first time. The inadequacy in reporting of new cases of gonorrhea is still reflected in the rate for 1939. As to the stage of the cases that were reported, 24.71 per cent of syphilis were in the primary and secondary stages and 99.33 per cent of gonorrhea were in the acute stage.

The distribution of free drugs to all physicians throughout the State for treatment of syphilis was maintained during the year and in addition free drugs to clinics only for the treatment of gonorrhea was begun in July. There were 228,215-0.6 gm. doses of neoarsphenamine, 312,830 cc of bismuth preparations, 12,480 cc of mercury benzoate, 6,300 mercurettes and 186,000-5 gr. tablets of sulfanilamide distributed. In addition to supplying free drugs, all venereal disease clinics were supplied with the basic equipment necessary for efficient operation. Previous to July 1st basic equipment such as metal top tables and sterilisers were supplied but subsequent to this time equipment necessary for a reasonably complete physical examination of patients was supplied. This consisted of examining tables, percussion hammers, blood pressure apparatuses, vaginal speculums, rubber gloves, materials and equipment for urinalysis, graduates for measur-

ing distilled water, white enamel stools, adjustable floor lamps, waste pails, sponge forceps and spinal puncture needles. With the inclusion of gonorrhea as an eligible disease for treatment in clinics, irrigator stands, glass tips and glasses for the two glass test were also supplied.

There were 109 clinics in operation in 64 counties, however, 5 clinics were discontinued during the year. Seventeen clinics were organised in 1939 and 8 counties began operating a clinic for the first time.

Beginning July 1st all venereal disease clinics, operated by the county medical society and staffed by physicians on a rotating basis, were subsidised. Clinician fees for the treatment of venereal disease cases were as follows:

1-50 patients treated equals one clinic session—fee \$5.00

51-100 patients treated equals two clinic sessions—fee \$10.00

101-150 patients treated equals three clinic sessions—fee \$15.00

151-200 patients treated equals four clinic sessions—fee \$20.00

In addition to the treatment session, separate examinations were established on a fee basis of \$5.00 per session. Three to six patients being considered a full session. Each physical examination was not expected to be too complete but complete enough to evaluate the patient's physical status and as a guide to the type of treatment needed by the individual patient.

In November, a completely equipped truck, furnished by the United States Public Health Service, largely for study purposes in rural areas, began operation in Macon County as a mobile unit in the diagnosis and treatment of venereal diseases. This truck covers the county on a weekly basis stopping at some 28 places and bringing its service within reach of all the rural areas. Some 500 patients are seen each week.

Case-holding and case-finding activities were carried on in 47 counties. 3,668 source and spread contacts were investigated and 555 were found positive and brought under treatment. Of the 14,077 cases reported as lapsing treatment, 4,668 were investigated and 6,783 of the lapsed cases returned to treatment.

In order to increase and improve the case-holding and case-finding activities, three nurses and one supervisor, specially trained in venereal disease control procedures, have been employed. An additional nurse will be employed during 1940. These nurses will be loaned to county health departments for a period of 3 to 4 months to demonstrate the feasibility and practicability of case-holding and case-finding activities and to bring the venereal disease case load up-to-date. It is to be hoped that, after the specialised nurse's visit, the local nurse or nurses will be able to maintain the venereal disease control activities.

One additional venereal disease control officer has been added to the division staff. This permits a more rapid turnover in counties visited.

The division in cooperation with the federal probation authorities made arrangement for the examination and, if infection is present, treatment of probationers, parolees and those conditionally released. Certain printed forms were

developed in order to insure effective and continuing co-operation between the two governmental agencies and the patients themselves. Such a plan of co-operative control is being extended to state parolees.

During the latter part of the year, plans were perfected for the establishment of a mechanical central tabulating unit. Statistical material in the past for both the state and individual venereal disease clinics has often not been available on account of the enormous task of hand tabulating the basic data. With the mechanical tabulating system statistical material is readily available since a master record is kept for each patient admitted to the clinic and maintained by a weekly notification system from clinics.

Educational procedures have continued during the year and many lay audiences were reached through talks or talking pictures.

There were 3 colored physicians given a one month's refresher course in venereal diseases at the United States Public Health Service Clinic at Hot Springs, Arkansas.

An institute on syphilis for public health nurses was held in 8 places throughout the State.

DIVISION OF TUBERCULOSIS

It is gratifying to know that one less person in Alabama succumbed each week to tuberculosis in 1939 than died in the preceding year. The tentative statistics now available reveal that there were 1,557 deaths from this disease in 1939 as compared to 1,610 deaths in 1938. This downward trend in the death rate of a disease which still holds first place as the cause of death from disease of those between the ages of 15 and 45, may be reasonably credited to a number of tangible, energetic efforts and procedures.

1. The eight state subsidised sanatoria admitted 879 cases and discharged 750 during 1939, a very creditable turnover for the available bed space. For each available sanatorium bed, approximately three patients were treated during the year.

2. The traveling chest clinic operated from the central office and its portable x-ray held 104 clinics in the 50 rural counties, many in the areas of the State where the maintenance of such equipment is impractical and impossible. Consequently, the visits of these clinics afford the only means available for diagnostic purposes in many cases. The files further reveal that this unit made 4,708 x-ray examinations of which 412 were diagnosed as being positive for pulmonary tuberculosis, while 165 were interpreted as suspicious, but whose final disposition was dependent upon physical examinations, laboratory findings, further history taking and subsequent re-x-ray. Of the definitely positive diagnoses, 101 were classified as far advanced, 130 as moderately advanced, and 114 as minimal; the remaining 67 were either under treatment or classified as possibly arrested cases. Many cases of pulmonary pathology other than tuberculosis were also identified from this large collection of x-ray material.

3. Strenuous effort is made in each county to get as many as possible of the treatable cases hospitalised with financial assistance by either the families of the patients, some local organiza-

tion, the local seal sale committee, the local board of revenue, the welfare department or the combined efforts of several of these groups.

The 17 counties not included in the traveling clinic's statistics are the urban counties, the 7 counties in the East Alabama Health District and those counties having sanatorium connections. These units, which are under five regional tuberculosis specialists, combine their sanatorium operation with weekly diagnostic clinic work.

The Morgan County Sanatorium near Decatur and the Tri-County Sanatorium at Scottsboro, both under the medical direction of Dr. A. G. Rice, held weekly out-patient clinics. These, together with interval clinics held in Marshall and DeKalb Counties by the state technician in this area, plus the x-ray services rendered by the Colbert County Health Department's own x-ray unit, accounted for 3,120 x-ray examinations last year.

The Susie Parker Stringfellow Hospital at Aniston and the Etowah County Tuberculosis Sanatorium near Gadsden, with Dr. C. J. Westover as their medical director, likewise held weekly contact x-ray clinics and weekly refill clinics for ambulatory patients.

The Jefferson County Tuberculosis Sanatorium, a hundred bed institution, is utilised by all the other state sanatoriums for major chest surgery. Cases suitable for this type of treatment are transferred to this institution for the actual surgery and then returned to the original sanatoria for the follow-up care.

The Montgomery Tuberculosis Sanatorium, which has been increased to a 105 bed institution, is proving to be a great teaching and treatment center for all cases from counties south and west of Montgomery and the return of these cases to their home communities is creating definite enthusiasm and a popular demand that all treatable cases be given sanatorium treatment and a chance for rehabilitation.

During the year 1939, one new sanatorium, The Batson Memorial Hospital, the united creation of Randolph and Chambers Counties was opened for operation. Records reveal that a total of 1,381 x-ray examinations were conducted at the out-patient clinic of this hospital and the clinics in the 7 counties composing the East Alabama Health District, by Dr. P. W. Auston, Medical Director of the hospital and tuberculosis clinician of the district. This new institution, plus the addition of facilities to already operating sanatoria, has increased the bed capacity for tuberculosis in this State by 88.

Another valuable addition has been created through the action of Colbert County in transforming its old almshouse into an isolation home for far advanced cases of tuberculosis. In this way these cases are prevented from spreading infection to their immediate contacts.

DIVISION OF INDUSTRIAL HYGIENE

Furthering its work of integration, the Division of Industrial Hygiene assisted the personnel of 22 local health departments in their efforts to become acquainted with the conditions, practices and materials associated with industry which may lead to the development of specific occupa-

tional diseases, aggravate other body ailments or permit the spread of communicable diseases among the adult population employed in their counties. Thus during the year 1939 Autauga, Baldwin, Bullock, Chambers, Cherokee, Cleburne, Colbert, Cullman, Franklin, Geneva, Hale, Henry, Jackson, Jefferson, Lauderdale, Limestone, Lowndes, Macon, Mobile, Morgan, Perry and Tuscaloosa Counties were added to the nineteen previously coached in the fundamentals of industrial hygiene.

No small part of the course of instruction was conducted in the plants themselves. Practical demonstrations centering around complete surveys of representative workrooms and including a careful analysis of each working procedure served as a background for the study of the public health significance of materials, by-products and waste products associated with the work. This field procedure tied in as it was with the mimeographed summary of important health hazards already studied by the personnel under instruction permitted broader conceptions regarding the potentialities of harmful substances and suggested to them suitable methods for their control.

The Division of Industrial Hygiene, assisted by the 41 counties cooperating, made satisfactory progress as revealed by its detailed report embracing 996 work-room studies of the environment of 18,930 employees. Analysis of the data thus obtained from the workrooms discloses the rate of potential exposures to skin irritants and cancer producers, poisonous substances and harmful dusts, noxious gases, vapors and fumes to be 2242 per thousand employees, whereas the protection rate for the same group of industrial establishments is only 132.2 per thousand exposures. The average workman so employed is potentially exposed to more than two hazardous substances or conditions and only one out of seven employees receives any protection against such hazards.

It should be recalled that these are potential exposures, as distinguished from positive exposures. Likewise protection has been presumed when plant equipment designed for the purpose existed, since no actual measurements of such factors as the particle size and concentration of dust, or the concentration and chemical composition of gases were made to determine their permissible safe limits according to nationally accepted standards. However, even though the grading of plants is based upon the potential rather than the actual exposure and protection rates, some progress can be and has been made toward outlining suitable industrial hygiene programs for the various plants.

Though the activities engaged in by this division have been kept at a minimum because of limited personnel, the hope is expressed that in the early future funds may be made available for much needed expansion in this particular field.

BUREAU OF LABORATORIES

During the calendar year 1939 the Bureau of Laboratories set an all-time record in the number of diagnostic specimens examined, namely, 427,550. This was made possible in no small degree by the fact that during the year, 30,189

more tests for evidence of syphilitic infections were performed than in 1938. Not all the increased work was in the venereal disease field, however; for 20,862 more examinations for intestinal parasite infestations were made this year than the year previous. Other significant increases in the number of specimens handled occurred in the case of sputa submitted for pneumococcus typing, chancre fluids for examination for *treponema pallidum*, smears to be examined for *neisseria gonorrhoea*, sputa for *mycobacterium tuberculosis* and blood films for the presence of plasmodia. Significantly fewer examinations were made for *corynebacterium diphtheriae*, for evidence of enteric infection and in the case of heads submitted for microscopic examination for evidence of rabies.

During the year some revisions were made in the procedures used in the routine work of the laboratories and certain equipment was added. These changes in methods were dictated by changes made in the Standard Methods of the American Public Health Association and the equipment was necessary, so that we might keep up with the demands of the medical profession, especially in the provision of sterile distilled water for use in the venereal disease program.

DIAGNOSTIC DIVISION

The number of specimens handled in the diagnostic division of the laboratories has increased markedly during the last five years. The following table shows this increase most graphically:

Table 1

Increase in Diagnostic Specimens 1935-1939:

Year	Number of Specimens	
	Examined	
1935	327,711
1936	360,139
1937	387,417
1938	375,882
1939	427,550

From this table it will be seen that the specimen load has mounted steadily except for the year 1938. During that year the loss was due to completion, in 1937, of the state-wide intestinal parasite survey; this recession was only temporary, however, as the syphilis campaign was rapidly gaining impetus and the figures for 1939 show a resumption of the upward trend. The increase in this direction is best shown in Table 2 which gives an analysis of the specimen load by types of examinations.

Table 2

Increase in Specimen Load by Types of Specimens:

1935-1939

Year	Milk & Intestinal Venereal				Grand Total
	Water	Parasites	Disease	Misc.	
1935	28,909	106,279	102,988	89,535	327,711
1936	32,139	139,466	117,949	70,585	360,139
1937	33,710	111,220	158,024	84,463	387,417
1938	34,495	43,083	205,268	93,038	375,882
1939	35,750	65,500	238,484	87,816	427,550

Scrutiny of Table 2 emphasises the fact that the volume of the milk and water and miscellaneous examinations does not vary a great deal from year to year. In contrast to this is the marked increase in examinations associated with the statewide venereal disease program in an effort to bring these diseases, now conceded to be major public health problems, definitely under control. During 1939, laboratory tests made in connection with these diseases constituted 56 per cent of the total. In the branch laboratories this type of work varied from 37 per cent of the total done in the branch doing proportionately the least venereal disease work to 67 per cent in the branch doing the most. It is also of interest to note that examinations for intestinal parasites varied from 2.33 per cent to 42.64 per cent of the total in the branches.

During 1939 there was also an appreciable increase in the use of the pneumococcus typing service. In 1938 there were 331 sputa submitted, in 184 of which the Quellung reaction of the pneumococcus could be demonstrated. In 1939, however, there were 794 specimens submitted, of which 395 were typed; of these, 6 contained two serologic types and 2 had three types.

An increase in the number of darkfield specimens examined in 1939 is also worthy of note. In 1938, 310 chancre fluids were received, whereas in 1939, 412 were examined. This increase does not indicate any materially greater appreciation of this service on the part of the general medical practitioners over the State, however, as by far the greatest increase was in two laboratories only.

Table 3 shows the distribution of the darkfield load by laboratories, 1938 and 1939:

Table 3

Distribution of Darkfield Examinations by Laboratories:

1938-1939

Laboratory	1938	1939	Gain or Loss
Montgomery	138	203	+65
Birmingham	116	128	+12
Mobile	4	18	+14
Decatur	16	18	+ 2
Tuscaloosa	0	2	+ 2
Anniston	5	11	+ 6
Selma	2	4	+ 2
Dothan	13	15	+ 2
Huntsville	15	13	- 2

During 1939 a serious effort was made for the first time in these laboratories to confirm positive agglutination tests for *Brucella* by attempts at isolation of the infecting organism. This was done by culturing the clots from the specimens sent in for agglutination that gave positive results and by getting special citrated blood specimens whenever possible. In all 122 cultures were attempted and 10 isolations were obtained. Nine of these strains were identified as of the *Brucella suis* variety and the other one was never typed, due to an accident in the laboratory.

BIOLOGIC DIVISION

In 1939 the following products were prepared in, and distributed from, the Biologic Division:

Typhoid vaccine	511,110 cc.
Diphtheria toxoid	92,840 cc.
Schick material	5,749 cc.
Rabies vaccine	1,230 treatments
Sterile normal saline	78,220 cc.
Sterile distilled water	2,010,050 cc.
Silver nitrate	83,600 ampules

Besides the above the following items were packaged and distributed from this laboratory:

Bismuth	323,290 cc.
Mercury benzoate	13,440 cc.
Cyclobis	65,510 cc.
Tuberculin	575 cc.

This year again, as in each of the past few years, the greatest increase in demand for any of the above items occurred in the case of sterile distilled water for use in the venereal disease program. In 1937, 673,950 cc. were distributed; in 1938, the amount had increased to 1,520,850 cc. and in 1939 the demand was for 2,010,050 cc. To meet this demand it became imperative that the production capacity of the laboratory be increased and to do this a new Barnstead still was installed. The output of this apparatus is such that all needs should be comfortably met for some time to come and it is believed that the product is now of superior quality as the finished product is now double distilled, whereas heretofore a water that was only singly distilled was distributed.

In this connection, it may not be out of place to call attention to the fact that supplying distilled water gratis to the physicians of Alabama is a costly matter. Conservatively estimated the expense of this item alone must be well in excess of \$5,000 per annum, not including any of the salaries of the personnel engaged in the work. There is ample justification, therefore, for reiteration of the plea that the containers be returned in every instance where possible so that they may be cleaned and put into circulation again.

Comparing the amount of alum precipitated toxoid distributed in 1939, namely, 92,840 cc., with the 105,300 cc. put out in 1938, it is obvious that some 12,000 cc. less were used in 1939, in spite of a rising curve of diphtheria incidence in the State.

SPECIAL ACTIVITIES AND RESEARCH

The Bureau of Laboratories in 1939 again participated in the Evaluation Study of Serodiagnostics Tests for Syphilis conducted by the United States Public Health Service. In this study 38 laboratories took part and were rated as to sensitivity and specificity of the technics employed. The routine procedures as followed in all the laboratories of the Alabama State Department of Health, that is, the Presumptive and Standard Kahn tests, were rated 87.1 per cent and 69.6 per cent in sensitivity and 98.2 per cent and 99.1 per cent in specificity, respectively. The figures are to be compared with 87.5 per cent and 77.4 per cent sensitivity and 100 per cent specificity, as obtained in Kahn's own laboratory.

During the fall of 1939 the laboratory continued its work in the study of diphtheria being conducted by Dr. D. G. Gill for the Diphtheria Committee of the American Public Health Association. In the course of this study some hundreds of throat cultures were worked over and the fact further confirmed that there exists an unusually high carrier rate among children in Alabama.

In association with the Division of Inspection of the Bureau of Sanitation, the Bureau of Laboratories studied in detail an epidemic of gastroenteritis occurring in Geneva and established the etiology in the form of a beta-hemolytic staphylococcus capable of producing a strong enterotoxin. The results of this investigation were published in the Journal of The Medical Association of the State of Alabama.

Again, as for several years past, the Bureau of Laboratories loaned a member of the staff to the Tennessee Valley Authority for some five months to assist in the examination of malaria slides.

In association with the Bureau of Preventable Diseases, the Bureau of Laboratories cooperated in a study of pinworm infestation in several institutions for children. The results of this investigation were presented at the meeting of the Southern Medical Association and are to be published later.

During the fall of 1939 a study was initiated in the field of tuberculosis diagnosis in which various methods of digestion and cultivation of sputum are being compared. In the course of this work definite assistance is being rendered the Division of Tuberculosis Control in clearing its files of many cases in which the clinical and x-ray findings have not been conclusive.

In association with Mr. C. A. Abele, of the Division of Inspection, the Director of the Bureau of Laboratories published the results of using the new tryptone-glucose-extract-milk agar in the routine examination of 1,000 milk samples.

In September the Selma Branch Laboratory moved into new quarters which were built especially for it, as an addition to the building in which the Dallas County Health Department is now housed.

As for several years past, the Bureau of Laboratories was again the recipient of two scholarship allowances. As a result one of our more experienced workers was sent to Baltimore for a year of study at the School of Hygiene and Public Health of the Johns Hopkins University and another was sent to Tulane University for special training in parasitology.

BUREAU OF SANITATION

The activities of the Bureau of Sanitation are undertaken primarily for the purpose of the reduction and control of typhoid fever, malarial fever, undulant fever, amoebic and bacillary dysentery, hookworm, and food poisoning. Other diseases are influenced as the control of the modes of transmission respond to environmental, insect, or food control. These make it necessary for the bureau, directly and through the county health units, to engage in the physical aspects of construction and maintenance in connection with some of the activities while others are handled

by regulatory supervision. The major items are water supplies, sewerage systems, privies, and septic tanks, milk and milk products production, manufacture and sale, beverages and foods, shellfish, hotels and eating establishments, rodent control, and in fact all factors of environment. There are public demands incidental to direct disease control associated with environmental sanitation which it is necessary for the bureau to meet, such as mosquito control disassociated from food control, some aspects of meat control, etc. The working relationships of the bureau are not only with the county health units but with the municipalities, corporations, and agencies of the State and Federal Governments.

It has an intimate working relationship with the administrative activities of the State Department of Health and is that branch of the department which prepares much of the technical data, regulations, and interpretations needed to govern and advance the many fields embraced. Its activities necessitate independent action as well as full integration through the county health units. With such varied functions and procedures the qualifications to personnel required are such that its work can best be carried on through various divisions, as engineering, inspection, and typhus control, with subdivisions of water supply and sewerage, malaria, and sanitation.

The press of programs of governmental agencies affecting public health, the increased demand for information, the accelerated internal activities of our own organization on a state basis, and the built up load of supervision through new construction of plants; all of these point to the rather urgent need for expansion of existing personnel staff to meet these growing demands.

DIVISION OF ENGINEERING

Water Supply

In the field of public water supplies, activities increased over any previous year due to additional supervision, special investigations, and new plants placed in operation.

The added duty of railroad watering-point sanitation was undertaken in connection with interstate carrier certification. Supervision stimulated a hundred or more improvements to old plants and systems, while seven towns built new systems. Expenditures in the State were over one and one-half million dollars. A check was kept through regularly scheduled visits and analyses on the water supply of 1,121,220 of our people. Special services were demanded in connection with drought and flood, taste and odor problems. Jefferson County, through the employment of a full-time engineer, made substantial progress on water supply control problems.

Although field work in connection with private and semi-public water supplies is normally performed by the county personnel, twenty inspections and reports were made in connection with supplies serving summer resorts, schools, subdivisions, and health resorts. Some 2,200 private water supply analyses were received and examined. While examination of strictly private supplies is discouraged, the public demands the

service as well as information on collection, examination, and significance and origin of pollution.

Sewerage

The trend of last year was continued in the construction of sewer systems and sewage treatment plants, especially in municipalities of the smaller population. Seven towns completed new sanitary systems and treatment plants. Five constructed new sewage treatment plants to prevent excess steam pollution and local nuisance. Included in the above, thirty-four projects were completed. Plans and specifications were checked and approval given on twenty-three additional works. The total monetary value of the improvements in this field was \$1,456,000. Inspections were made of all new plants and instructions given for proper operation, in addition to regular visits to old plants. As modern mechanised installations are made operation is mandatory and results tend to improve.

Prevention of Stream Pollution Through Mine Sealing

In Jefferson, Tuscaloosa, and Walker Counties the sealing of abandoned mines, to prevent the formation and pollution of streams with sulphuric acid, has progressed since 1934. These three counties produced 86 per cent of the total acid pollution of the State. This work while nearing completion may be discontinued due to additional restrictions placed on the Work Projects Administration in the matter of sponsor's contribution. Could the task be completed, future control should logically become a continuing function of state government through the mine inspection division.

Prevention of Disease Through Swimming Pool Control

Up to the present time the central department has not engaged in the supervision of swimming pools, this problem being left to the county health departments to engage in or not, as their resources permitted. Field design data, however, were approved on artificial pools constructed at Tuskegee and Piedmont, while plans and specifications were checked for Lanett, and filtration and recirculation structures and equipment were installed in the three city pools of Montgomery. The problem of utilising the lake regions of the Tennessee River Valley, or providing special swimming facilities, is new and as yet remains unsolved. Considerable study and mature judgment will be required to reach a solution satisfactory to the cities, commercial developments, and the patrons.

Basic Sanitation and the Control of Enteric Diseases

Septic tanks and pit privies are necessary, as a protection against hookworm and enteric diseases, in municipalities and rural areas where sewers are not available. Engaged in this activity as a fundamental item of service were sixty-one sanitation officers located in fifty-seven of the sixty-seven counties. To the number of persons already protected were added 120,000 persons, while restoration was made to 11,000 others. Sanitation in incorporated towns and cities can be, with satisfactory public and private finances,

placed on such a basis as to adequately protect the public health. The same situation does not exist in the areas of the county outside incorporated jurisdiction. Alabama must look to additional legislation dealing with the authority of county government for a full solution of its hookworm and enteric disease problems.

Co-operation was had with the following agencies in the construction of septic tanks and privies, and the measure of the participation is stated:

Farm Security Administration: Privy plans and specifications were made in co-operation with this division and adopted by two divisions of the Farm Security Administration—namely, the Rural Rehabilitation Division and the Tenant Purchase Division. A clear and definite understanding between all concerned should result in a well-rounded program by this agency during the coming year.

Federal Housing Administration: This division co-operated with the Federal Housing Administration as in previous years in the installation of septic tanks on properties securing loans through that department. The agency drew up and adopted new specifications governing septic tanks and disposal fields. The specifications were intended to cover more fully the requirements in regard to commercial tanks, also the type recommended by this department. Requirements with reference to materials are to be and were administered by the Federal Housing Administration.

Work Projects Administration: In the field of sanitation the Work Projects Administration continued to play a prominent role. However, its participation was less than during the previous year, due largely to additional restrictions placed upon the operation of the sanitation project. Expenditures by the Work Projects Administration have amounted to \$274,697.00 with individual citizens and school authorities furnishing \$211,010.00.

Legislation

An act, to enable county governing bodies to assume responsibility for organised programs of sanitation in rural areas, was drafted and presented to the Legislature. The final draft of this proposed act was made following an opinion given by the Attorney General that the governing bodies of counties could be vested with powers to make necessary sanitation improvements and assess the cost against the property involved. Although this bill was not acted upon favourably, it is recognised as essential to an organised approach to an ultimate solution of the State's rural sanitation problem.

Sanitation Personnel Training

It is recognised that training of personnel is essential and a necessary function. Eighteen sanitation officers were sent to Vanderbilt University for a three-months' special course in sanitation. Eight trainees for sanitation officers were given field training and assigned to counties. During the latter part of the year the division realised full benefit from the field training center in the training of sanitation officer personnel.

Engineering Aspects of Malaria Control

The death rate from malaria for 1939, 6.9, was the lowest in the past ten years with the single exception of 1932 when the rate was 6.7. In Alabama malaria may now be considered an entirely rural problem since the municipalities have taken steps to control this disease within their confines. Realising this fact, nine counties are being prepared for an organized malaria control program through an engineering analysis of their physical problems. These engineering surveys were started in the fall of 1937 and at the time of this report four of the counties have been completed.

Work Projects Administration drainage units have been operated in twenty-eight counties. Restrictions on the operations of these units are explained in the Work Projects Administration operating procedure 0-17 which made it mandatory for detailed plans of each unit to be submitted in triplicate to the State Work Projects Administration, which in turn sends one copy to the Regional Office of the United States Biological Survey and one copy to the Washington office of the Work Projects Administration for review. If the unit is approved it is released to the State Department of Health for operation in the particular county. It is estimated that the completed work in these counties will affect 84,867 persons and that the average excavation was 0.228 cubic yards per man hour.

On large impoundages control operations were generally satisfactory, except on lakes which were not being fluctuated. Complaints of the State Department of Conservation and sportsmen's clubs resulted in the suspension of oiling operations on Lake Bankhead for the entire month of June and extensive mosquito production occurred. Through the efforts of the health department, the United States Public Health Service, and the Governor of Alabama, control operations were resumed on July 1st and satisfactory results were secured except in one area. This portion of the lake was in Coal Creek Area and adjacent to Maxine and environs where malaria in epidemic proportions was occurring. The State Health Officer arranged, through the Jefferson County Health Department, to apply chemotherapy which was successful as a measure of relief and control.

An unusual increase in the number of small artificial lakes occurred during the year due to the increased interest in recreational and the construction of stock ponds. According to the records of the department there are 57,502 people living within the flight range of the malaria vector through artificial impoundages. Steps are being taken to more fully integrate this activity with county health department operation.

The mosquito-proofing of approximately 350 houses in the vicinity of Lake Wheeler was carried out through co-operative contracts. This work was done for the multiple purpose of added protection and to study and evaluate this method of control. Larvicidal operations were discontinued on the lake contiguous to the areas which had been screened; however, biological control methods such as shoreline improvement and water level fluctuation were not suspended.

General survey of municipalities to aid in anti-mosquito work was continued, as were the development and advancement of personnel through visits to work underway in other states.

Graphs in Routine Operation and Education

The number of prints distributed this year was double that of the previous year. This calls attention to the growing demand for illustrative, planning and factual material needed in all phases of health work. Much of the increase was made possible by the changed type of sanitation officer, who has been selected and trained to make and complete in the field survey maps, plans, and profiles.

DIVISION OF TYPHUS FEVER CONTROL

A decided increase in the incidence of typhus fever was noted during 1939. A total of 474 cases and 28 deaths was recorded in 41 counties. This was the largest number of cases to occur in any year since 1925 with the exception of 1937. The highest increase was indicated from Mobile County, a total of 68 cases being an all-time high record. Houston County reported 66 cases for the year and was second highest in the State.

Control programs lasting from one to three months were operated in 16 counties, in most instances with Work Projects Administration participation.

Five localized outbreaks were reported in widely separated sections of the State, three of these occurring in previously typhus-free areas. Further cases from these localities have not been reported since the application of control measures.

Two large corporations and one city of 26,000 population operated control programs under the direction of the department without Work Projects Administration assistance.

Public interest in rat control is demonstrated by frequent requests for rat-proofing surveys, and information as to methods of control. Efforts by the department to have the Work Projects Administration order prohibiting the use of labor for rat-proofing and restricting extermination to rural areas modified or rescinded so far have not been successful.

The growing experience of the health department seems to indicate definitely that the disease can be kept under control. A requisite would be adequate financing, wherein the expenditures would be within the administrative control of the department.

Federal expenditures amounted to \$41,395, while Alabama persons or agencies furnished \$11,555.

DIVISION OF INSPECTION

The fuller participation of the county health departments in the program of food sanitation, as indicated in the 1938 report, became an accomplished fact in 1939. Food sanitation ratings and appraisal of sanitation officer and inspector activity were made in sixty-one counties. Few counties remain without some means of food control. The department is acting as a clearing house for inter-county shipments having certified to ninety-six establishments. The co-operative work with the Alabama Beverage Commission

continued and fifty-six food establishments wishing to serve alcoholic beverages were reported to the Board. No satisfactory solution to the inspection of certain food products, by the authorities at the point of origin, to be shipped into Alabama has been found. Products for Alabama consumption were inspected in three states adjoining our borders. The sanitary control of soft drinks has been maintained at a satisfactory level.

Hotels

Hotel inspections were more than doubled in number in 1939 as compared to 1938.

Shellfish Sanitation

Up to and including December 31, 1939, Oyster Dealer Certificates were issued to forty individuals or firms. A total of two hundred twenty-one inspections was made of these establishments during the calendar year. Certificates were also issued to twenty-one crabmeat picking establishments and fifty-five inspections on such establishments were made during the year.

Ice Cream

Between October 1 and December 31, 1939, one hundred one permits for the manufacture of ice cream were issued. Only a few plants had not made the necessary improvements to warrant a permit at the end of the year.

Milk Control Activities

Advisory assistance on milk sanitation was rendered to the county health departments in fifty-four communities which had adopted either the State Board of Health Milk Regulations or the United States Public Health Service Milk Ordinance. Eight additional communities inaugurated the voluntary system for grading dairies during the year. Four municipal milk sanitation ratings were made during the year. In one of these cities the degree of excellence of enforcement was sufficient to warrant its inclusion, by the United States Public Health Service, on the list of cities with approved milk supplies.

Supervision of the quality improvement activities conducted among a limited number of milk producers, by Southern Dairies, Incorporated, of Montgomery, was continued.

Having better organized the food control work and thereby relieved the state inspectors, to an extent, of this activity, additional attention will be given to milk and milk products control. This is a co-operative municipal activity, the financial support of which is derived in various ways. The present status demands all the attention which can be given to it. A complete reappraisal is necessary, following which much constructive effort is indicated.

Other Activities

While there are activities having greater public health implications the public is increasingly demanding meat inspection and sanitation. There are a number of factors of relatively recent development in the State which are leading to a demand upon health departments for increased participation in this problem. Formulation of programs for the inauguration of meat inspection was necessary in two communities with inquiries

from others. The State Health Department has not adopted definite policies but it is felt it will be required to do so. In this connection, a full study of the situation within the State is indicated.

It is believed that a forward step was taken through the preparation of recommended sanitation standards for school lunchrooms, patterned after the Food Regulations. These standards were prepared for the counsel of co-ordinating agencies on school lunchrooms.

The year's work covered an investigation of a gastro-enteritis outbreak due to milk and educational work with Auburn, trade meetings, and our local inspectors and sanitarians, as well as preparation of evidence for the prevention of flagrant violations of the Food Regulations and vising of and revising a number of pasteurisation and ice cream plant plans.

BUREAU OF HYGIENE AND NURSING

Personnel of the Bureau of Hygiene and Nursing continued their advisory activities with state and county health workers as well as services rendered directly to the people in cooperation with county health departments.

EDUCATIONAL

Educational activities were conducted by members of the bureau through the following services: (1) Institutes on syphilis in maternity patients and infants, nutrition, oral hygiene, and public health nursing; (2) Lectures to college groups, medical societies and school assemblies; (3) Radio talks; (4) Articles for publication in journals, newspapers, and bulletins; (5) Individual and group conferences with professional and lay persons; (6) Exhibits; (7) Clinics and demonstrations; and (8) Motion pictures.

DIVISION OF MATERNAL HYGIENE

During 1939 thirty-one additional maternity clinic centers were organized in sixteen counties. The associate visited each of these clinic centers for the first clinic. In addition, she visited them and the other forty-two previously organized as opportunities were presented.

Home delivery nursing service and nurse-midwife service are included in the "Demonstration Services" recorded elsewhere.

Prevention of Cancer

The associate continued to serve as secretary to the State Medical Association's Committee on the Prevention of Cancer. She worked in co-operation with the Alabama Division of the Women's Field Army in its efforts to organize women of the State to combat cancer. She represented the State Committee at the Southeastern Assembly of State Commanders in Atlanta.

Comments and Suggestions

The growth from five counties with eleven maternity centers on January 1, 1937 to thirty-three counties with seventy-three centers in November 1939 is an indication of the increased interest in this service. Only three counties conducted maternity clinics without the aid of the Children's Bureau funds in 1939. It is hoped that a greater

number of clinics will be organised with local funds or increased local appropriations will be made to augment the clinic services now available.

DIVISION OF CHILD HYGIENE

The central staff pediatrician who was the associate in charge of the Division of Child Hygiene resigned August 1939 and the position was not filled before the year closed because of inability to procure a qualified person.

The educational and consultation services of the pediatrician were cordially recorded by many of the physicians in practically all counties that were visited. It is suggested that the pediatrician be given the privilege to do more promotional work for the organisation from local sources which should be encouraged.

It is felt that the activities of the pediatrician materially help to increase the interest of physicians and lay people in proper diagnosis and treatment of the diseases of infancy and childhood. They also assist county health personnel in their child health programs. Results of these activities are reflected in the continued downward trend of the infant mortality rate. One discouraging observation is made, however, in the study of the infant mortality rate and it is that the neonatal death rate is not being reduced. On the contrary, it is increasing slightly. Premature birth, injury at birth, accidents and other violence, pneumonia, diarrhea and enteritis and other contagious and infectious diseases contribute largely to this neonatal death rate. It is likely that improvement will be observed in infant mortality only when a greater number of expectant mothers receive adequate care throughout the entire maternity cycle.

The activities of the pediatrician associated with the East Alabama Health District are included in the report submitted from that district. The activities of the Negro pediatrician on the staff at Slossfield are reported with the "Demonstration Services."

DIVISION OF ORAL HYGIENE

The associate in charge of the Division of Oral Hygiene, co-operating with school authorities, dentists, and county health personnel supervised all dental educational and corrective programs. Local dentists made the dental examinations. Notices were sent by the health departments to parents of children found to have dental defects advising them to take their children to the family dentist. Notices were also sent to parents of children in whom no dental defects were found advising them "to assist in maintaining a healthy condition, brush the teeth at least twice daily; consume a well balanced diet daily, including at least a quart of milk; visit a dentist every six months."

Dental clinics were conducted by the county health departments for indigents in four counties. They are: Montgomery, Lowndes, Jefferson and Dallas. Supplies and equipment required for the establishment of dental clinics were furnished by the local community.

Comments and Suggestions

Increasing interest in the oral hygiene program is being manifested both by the schools and the public. The dentists co-operate in an excellent manner. However, it is physically impossible for the dentist working out of the central office to adequately serve all of the counties outside of the East Alabama Health District. The need for an enlarged personnel in the field of oral hygiene is great and effort will be made to meet this need, as finances will permit.

Some significant findings made by the dentists who examined 21,205 school children were: (1) 86.8% of them needed the services of a dentist; (2) 70.8% of them had not sought the services of a dentist within a year; (3) 46% had never received the services of a dentist; and (4) the majority of the 34.1% who had failed or repeated grades in school had dental decay, diseased gums or abscessed teeth.

Local dentists co-operated in the effort to get defects corrected. However, the indigent load was too great for them to carry. Four counties conduct dental clinics for indigent cases. Four other counties have made arrangements for organising these clinics in 1940.

NUTRITION

The program of the nutritionist has been largely educational. She has worked with county health workers, school authorities, lunchroom managers, co-operating agencies, and the general public.

Interest in proper organisation of school lunchrooms was manifested throughout the State. A lunchroom managers association was organised and affiliated with the Alabama Educational Association. A council of coordinating agencies for school lunchrooms was organised. Representatives from the State Departments of Education, Welfare and Health, National Youth Administration, Work Projects Administration, Extension Services, and Parent-Teacher Associations are members of this council. They meet once a month and serve as advisers in policies and procedures regarding lunchrooms. The State Superintendent of Education has declared lunchroom promotion to be a responsibility of the Department of Education. All agencies are co-operating to make lunchrooms practical.

The need for trained workers for the school lunchrooms was quite evident and assistance was given by the nutritionist in this undertaking. So much of a nutritional program is educative that effort will be made to have the nutritionist participate in courses at the teacher training schools during the summer and to hold additional institutes with lunchroom managers, county health nurses, and other groups interested in nutrition.

DIVISION OF PUBLIC HEALTH NURSING

The associate in charge of the Division of Public Health Nursing taught public health nursing trainees at the personnel training station in Opelika in addition to directing the advisory nursing service throughout the State and serving as advisory nurse for five counties. The two advisory

nurses assigned to the North and East Alabama Health Districts were located in district offices at Athens and Opelika respectively. The associate and three other advisory nurses worked out of the central office in Montgomery.

Staff education was promoted by study, attendance of meetings and conferences outside the State. Conferences of the entire staff were held monthly for the purpose of study and administration and supervision. A scholarship was granted to one of the advisory nurses for post-graduate study in public health nursing beginning September 1939 and ending in June 1940.

Activities in the Central Office

A roster of nurses eligible for county placement was maintained. Ninety-two applications were received during the year. References were checked on all of these and personal interviews were held in many instances. In addition to the county health department placements, recommendations of nurses were made to the Farm Security Administration and five were placed in the Bureau of Preventable Diseases, Division of Venereal Disease Control.

Field Service

A total of 326 visits was made to the 67 counties. Visits were made to counties by arrangement and considerable time was spent in each county when new personnel was assigned. The services rendered by the county nurses have grown rapidly in the last year, particularly the clinic services. The advisory nurses assisted in inaugurating the new techniques for these expanded services. There were 179 county health nurses in the field in December 1939; 151 were white and 28 colored.

Public Health Nursing Study Courses

Scholarships were granted with funds from the Children's Bureau, Rosenwald Fund and the United States Public Health Service to nurses as follows:

One month at Field Training Center	9
Three months public health nursing course	13
Nine months public health nursing course	2
Four months public health nursing course	1
Four and one half months Chicago Maternity Center	1
Six months Lobenstine Midwifery Clinic	2

Five nurses financed their own graduate study as follows:

Nine months graduate nursing school	2
Three months graduate nursing school	3

Movable School Nurse

A colored nurse is supplied the unit constituting the Movable School associated with the Tuskegee Institute. The force consists of a farm demonstration agent, a home demonstration agent, and the public health nurse. The Movable School works over the State in rural counties where a large percentage of the population is colored. Demonstrations are given in improved practices of farming, home making and health and sanitation.

Midwife Control

During 1939 fifty-three visits were made to 43 of the 67 counties. Three weeks were spent in Geneva County during the illness of the county health officer and public health nurse, doing generalised nursing. Two months were spent in assisting with plans for initiating a nurse-midwife delivery service in Macon County. During the other visits emphasis was placed on:

1. Program planning for midwife control activities,
2. Having policies and practices for midwife control program so that they are available to all members of the staff and approved by the Board of Censors,
3. Keeping adequate records of midwife activities,
4. Trying to get the regulation that all cases attended by midwives should have medical supervision during pregnancy.

Summary

Definite progress has been made during the year in better use of nursing tools and increased uniformity and oneness of purpose in the public health nursing program. The need for additional public health nurses becomes more evident as services expand and greater demands are put on the nurses to participate in such expanded activities. Competent authorities recommend that there should be at least one public health nurse per 5,000 population to render an adequate public health nursing service in rural areas. The average now in Alabama is one public health nurse to about 18,000 population.

The development and strengthening of lay participation and community organisation for co-operation with health departments seems to offer an unquestioned opportunity toward increasing the quantity and perhaps quality of public health services.

Expansion of services during the year 1939 in the Bureau of Hygiene and Nursing was made through the addition of personnel and maternal and child health clinics. Added personnel included an experienced, well prepared public health nurse as associate in charge of the Division of Nursing who also served as instructor of nurses at the field experience station in Opelika. The Children's Bureau furnished the services of a Negro pediatrician who is located at the Slossfield Health Center, in Jefferson County, in immediate charge of the medical portion of the program. A third nurse was added to the home delivery nursing service in Cullman County and this service was placed on a rotating basis with the two public health nurses in the county participating. The five nurses conduct a generalised public health nursing program rotating services regularly so that two are on home delivery duty at all times. Two Negro nurse-midwives were added during the year and are stationed in Beats 4 and 5 of Macon County. They rendered a generalised public health nursing service and attended deliveries in the two beats. Plans were formulated for further expansion of MCH services in Jefferson and Macon Counties.

There were 31 maternity, 3 child health, and one dental clinics added during the year. These

are conducted by local part time physicians and dentists on a fee basis of \$5.00 for each clinic session conducted.

BUREAU OF VITAL STATISTICS

In 1939 the Bureau of Vital Statistics established contacts with approximately 95,000 homes. The usual practice of sending notifications of birth registration to parents of the newborn was continued and 66,525 were sent. This represents a marked reduction below the 1938 figure which was unusually high because of an accumulated amount of work cared for in that year. The volume of notifications handled in 1939 was slightly higher than the annual number of births recorded, indicating that this phase of the division's work had returned to normal.

Certified copies of certificates issued rose sharply from 4,559 to 5,344, an increase of 785 or 17.2 per cent. It represents the sixth consecutive year of increase. The demand for certified copies may be expected to continue its upward trend because the people of Alabama are finding them useful in many ways. The vast majority of demands for copies are not for certified, but rather, uncertified copies. In 1939 the ages of 4,083 children were verified for school entrance purposes and 1,432 for satisfying the child labor laws in regard to beginning work. In addition, many thousand requests are received from adults for verification of their birth dates or those of their children. Upon receipt of these requests it is necessary to search the records before a reply can be made. In 1939 approximately 37,000 searches were made, the same number as in the preceding year.

Because many of the certificates are received incomplete, or obviously in error, it is necessary to secure their completion or information which will enable the bureau to make the correction by questionnaire. Over 26,000 queries were mailed for this purpose. Some 29,000 additions or corrections were made on certificates in 1939. The above represents a reduction both in queries sent and corrections made, compared with the preceding year, indicating an improvement in the completeness and accuracy of the certificates received.

In accordance with the laws concerning adoption, 224 copies of decrees of adoption were received from the several judges of probate. A new birth certificate was prepared for each case and substituted for the old one as required by law.

All original certificates of birth, death, still-birth, marriage and reports of divorce are systematically arranged, numbered and bound for preservation. They totalled about 150,000 in 1939. An index was prepared monthly for the births, deaths and marriages.

For statistical purposes, much of the information contained on the certificates is transferred to tabulation cards. About 150,000 such cards were prepared. Tabulation from these cards form the basis of the monthly publication "Monthly Bulletin of Vital Statistics," and of the "Annual Report Relating to the Registration of Births, Deaths, Marriages and Divorces," as well as many special studies.

In cooperation with the Bureau of Preventable Diseases, about 70,000 reports received from physicians reporting various cases of disease were transcribed to tabulation cards. The cards were tabulated and a report made to the above bureau. This is a routine practice. Likewise, the Bureau of Hygiene and Nursing utilised the service of our tabulating division. Data on 21,000 cards filled out by dentists following examination of school children were transcribed to tabulating cards, tabulated and a report made to the above bureau.

The statistical division of the Bureau of Vital Statistics, in addition to supplying answers to hundreds of miscellaneous requests from the public for health statistics, began a seven-year study of deaths from accidental causes.

Before the close of the year it completed that part of the study relating to deaths from accidents in the home and on the farm. It is expected that this study will be finished in 1940.

Part III of the Board's report was approved; as was the report as a whole.

REVISION OF THE ROLLS

The next order of business being the revision of the rolls of the Association, the Secretary was directed by President Davie to proceed without interruption in the absence of objection. As a preface to the revision of the Roll of County Societies, the Secretary said:

"County Medical Societies, to comply with the Constitution, must meet certain obligations. First, an annual report, on forms furnished by the Association, must be filed with the Secretary; second, each society is expected to be represented at the annual meeting by at least one delegate; third, fees must be paid to the Association for each delegate to which the society is entitled; and, fourth, dues are to be remitted for each member not exempt from payment of dues."

With this foreword, the revision proceeded.

1. Revision of the Roll of County Societies:

(a) County societies which have fulfilled all their constitutional obligations: Autauga, Barbour, Bibb, Blount, Bullock, Butler, Calhoun, Chambers, Cherokee, Choctaw, Clarke, Clay, Coffee, Colbert, Conecuh, Covington, Crenshaw, Cullman, Dallas, DeKalb, Elmore, Escambia, Etowah, Fayette, Franklin, Geneva, Hale, Houston, Jackson, Jefferson, Lamar, Lauderdale, Lawrence, Lee, Limestone, Madison, Marengo, Marion, Marshall, Mobile, Monroe, Montgomery, Perry, Pickens, Pike, Randolph, Shelby, Sumter, Talladega, Tallapoosa, Tuscaloosa, Walker, Washington, Wilcox, Winston—Total 55.

No objection being made as to the correctness of this report, the President directed that these societies be passed as clear on the books.

(b) County societies partially delinquent: In that they are not represented by delegates at this meeting of the Association—Baldwin, Chilton, Dale, Henry, Lowndes, Macon, Morgan and Russell. In that it is delinquent in representation and dues as indicated: Cleburne (delegate dues). For failure to submit report, county dues and delegate dues: St. Clair. In remitting for but one delegate: Coosa and Greene.

No objection being offered as to the correctness of this report, the President directed that these societies be passed, with the understanding that the Secretary-Treasurer make an effort to remove the delinquencies, as far as possible.

(c) County societies totally delinquent: None.

Thereupon the Secretary said: "In revising the Roll of the College of Counsellors, five lists are prepared, designated respectively: (1) the schedule of counsellors clear on the books in regard to attendance and dues; (2) the schedule of delinquent counsellors—counsellors delinquent in attendance or dues, or against whom charges may be pending; (3) the schedule of miscellaneous counsellors—counsellors who have died since the last annual meeting, or have offered their resignation, or have moved out of the State, or out of their respective congressional districts; (4) the schedule of active counsellors of twenty years' standing, and (5) the schedule of counsellors-elect who have qualified as provided in the Constitution."

With such preface, the revision was continued.

2. Revision of the Roll of Counsellors:

(a) Counsellors clear on the books: Abernethy, Abbott, Acker, C. T., and P. J. M., Alison, J. F., Anderson, Bedsole, Belue, Brown, Brunson, Burdeshaw, Cannon, Carter, Chenault, E. M., Craddock, Dabney, Daves, Dowling, Eskew, Garber, Gilder, Gragg, Graham, Granger, Gresham, W. A.; Grote, Hagood, Hatchett, Hill, R. C., and R. L.; Hodges, Howell, Hubbard, Huey, James, King, Ledbetter, Lester, Lewis, Martin, J. A., Mason, E. M., McAdory, McCall, McCullough, Moore, C. W. C., and D. S., Noland, Oswalt, Parker, Perdue, Pickell, Redden, Riser, Rountree, Rucker, Salter, Scarbrough, Scott, Searcy, Shropshire, Simpson, Sledge, Smith, G. R. and M. E., Stabler, Stallworth, Tankersley, Taylor, Thacker, Tillman, Waldrop, Walker, Walls, Walsh, Watson, Weil, Welch, Weldon, White, Wood, Wright.

In the absence of objection, the President ordered passed the names of these counsellors reported as clear on the books:

(b) Delinquent Counsellors: None.

(c) Miscellaneous Counsellors:

- (1) Life Counsellors who have died: Drs. C. C. Jones and J. U. Ray.
- (2) Active Counsellors who have died: Drs. S. H. Newman and M. J. Williams.
- (3) Active Counsellors who have moved: None.
- (4) Active Counsellors who have resigned: Dr. T. H. Appleton.
- (5) Active Counsellors of twenty years' standing: Drs. C. P. Hayes, J. P. Hayes, Sydney Leach, Clarence Long, E. D. McAdory and E. M. Thomas.
- (6) Counsellors-Elect who have properly qualified: Drs. F. H. Boyd, W. T. Cocke, L. C. Davis, C. E. Ford, R. Lee Hill, N. W. Killingsworth, C. G. Laslie, J. O. Morgan, J. D. Sherrill, Marcus Skinner and H. W. Waters.

The President directed that the names of the deceased counsellors be transferred to the Book of the Dead; that the name of Dr. T. H. Appleton be removed from the roll; that Drs. C. P. Hayes, J. P. Hayes, Sydney Leach, Clarence Long, E. D. McAdory and E. M. Thomas be transferred to the Roll of Life Counsellors; and that to the Roll of Active Counsellors be added Drs. F. H. Boyd, W. T. Cocke, L. C. Davis, C. E. Ford, R. Lee Hill, N. W. Killingsworth, C. G. Laslie, J. O. Morgan, J. D. Sherrill, Marcus Skinner and H. W. Waters.

3. Revision of the Roll of Correspondents:

Dr. E. V. McCollum, the 1940 Jerome Cochran Lecturer, was added to the Roll of Correspondents.

4. Revision of the Roll of Officers:

Dr. S. A. Gordon, Marion, was elected President; Dr. Merle Smith, Parrish, Vice-President of the Northwestern Division; Dr. Douglas L. Cannon, Secretary-Treasurer; and Drs. E. V. Caldwell and M. S. Davie, Censors for five years.

Committees constitutionally provided to nominate counsellors brought in the following nominations: 1st District—Dr. J. D. Perdue; 2nd—Drs. F. L. Abernethy, John A. Martin and L. D. Parker; 3rd—Drs. W. H. McCaslan, W. A. Lewis and E. L. Gibson; 4th—Drs. J. F. Sewell and G. G. Woodruff; 5th—Drs. C. D. Killian, W. D. Wood and A. L. Isbell; 6th—Drs. T. J. Anderson, J. P. Smith and J. P. Collier; 7th—Drs. W. A. Gresham, A. C. Jackson and R. H. Redden; and 9th—Dr. G. F. Walsh.

The ballot of the Association was cast for these nominees by the Secretary.

Miscellaneous Business

The Association adopted the following expression of appreciation of Dr. J. U. Ray, presented by Dr. R. S. Hill of Montgomery:

As the evening shadows of life stretch in increasing length from the western horizon, we are prone to indulge more and more in retrospection. Looking back through the forty-nine years I have enjoyed membership in this Association, I find the men who, when I was admitted, adorned our meetings with their intellectual brilliancy and devotion to the cause of medicine have gone to their last reward and the ranks of the generation to which I belong are rapidly being depleted. But a few short months ago time struck again and was answered by our beloved treasurer, Dr. J. U. Ray. Through a quarter of a century Dr. Ray served this Association loyally and efficiently in an official capacity. Unspoiled by toil and strife in search of pelf and place, he was a village doctor devoted to service. So was Ephraim McDowell a village doctor. So was Crawford W. Long a village doctor. God bless the village doctor. Dr. Ray's service earned for him the respect and confidence, yea, the love of the community in which he lived and brought him the greatest of all rewards—the consciousness of duty well done. He appreciated the recognition given him by this Association and his love and affection for its members permeated his home as is attested by a letter received a few days ago by me with a message to you from his widow—the woman who traveled life's highway with him and now in the evening of her life is thinking of you, his friends, who contributed gladness and happiness to him. May I now read from her letter?

"As time draws near for the medical meeting my thoughts turn more and more often to Dr. Ray's friends of the Association. The Medical Association meeting was the one thing he looked forward to during the year. If it is not out of order, please greet the Association for me in Dr. Ray's name and wish the doctors success and happiness."

I move you, Mr. President, that this thoughtful and gracious message be spread upon the minutes of this meeting and the Secretary be requested to make appreciative acknowledgement to Mrs. Ray.

Mobile was chosen as the 1941 meeting place.

Resolution was adopted conveying the Association's appreciation to the Jefferson County Medical Society and other organizations and individuals for courtesies shown during the meeting.

President Gordon and other newly chosen officers were presented, whereupon the Association was declared adjourned.

THE ROLL OF COUNSELLORS

REVISION OF 1940

LIFE COUNSELLORS

Name and Address	Date of Election
Alison, Samuel Blakemore, Minter (4)	1919
Andrews, Glenn, Montgomery (2)	1893
Ashcraft, Virgil Lee, Reform (7)	1919
Baker, J. N., Montgomery (2)	1905

Bondurant, Eugene DuBose, Mobile (1)	1894
Caldwell, Edwin Valdivia, Huntsville (8)	1918
Cameron, Matthew Bunyan, Eutaw (6)	1893
Chenault, Frank L., Decatur (8)	1917
Crutchner, John Sims, Athens (8)	1915
Cunningham, William Moody, Jasper (7)	1912
Davie, Mercer Stillwell, Dothan (3)	1904
Faulk, William M., Tuscaloosa (6)	1913
Gordon, Samuel A., Marion (6)	1913
Gresham, George L., Andalusia (2)	1913
Guice, Charles Lee, Gadsden (5)	1899
Harper, Wm. Wade, Selma (4)	1902
Harris, Seale, Birmingham (9)	1903
Harrison, William Groce, Birmingham (9)	1896
Hayes, Charles Philips, Elba (3)	1920
Hayes, Julius Pope, Clanton (6)	1920
Heacock, Jos. D., Birmingham (9)	1912
Heflin, Wyatt, Birmingham (9)	1893
Hendrick, Walter Branham, Hartsboro (3)	1915
Hill, Luther Leonidas, Montgomery (2)	1888
Hill, Robert Somerville, Montgomery (2)	1898
Howell, William Edward, Haleyville (7)	1918
Howle, James Augustus, Hartselle (8)	1895
Jackson, Alva A., Florence (8)	1918
Leach, Sydney, Tuscaloosa (6)	1920
Lightfoot, Phillip Malcolm, Shorter (3)	1918
Long, Clarence, Hartsboro (3)	1920
Lull, Cabot, Birmingham (9)	1919
Lupton, Frank A., Birmingham (9)	1913
Martin, James Cordie, Cullman (7)	1917
Mason, James Monroe, Birmingham (9)	1918
Mayer, Kossuth Aaron, Lower Peach Tree (1)	1919
McAdory, Edward Dudley, Cullman (7)	1920
McCain, William Jasper, Livingston (6)	1898
McLeod, John Calvin, Bay Minette (2)	1911
McLester, James Somerville, Birmingham (9)	1913
Mohr, Chas. A., Mobile (1)	1909
Partlow, William Dempsey, Tuscaloosa (6)	1909
Price, Albert Bascom, Gordo (7)	1919
Prince, Edward Mortimer, Birmingham (9)	1909
Ralls, Arthur W., Gadsden (5)	1919
Sankey, Howard J., Nauvoo (7)	1914
Smith, Russell Aubrey, Brewton (2)	1918
Speir, Phillip V., Greenville (2)	1917
Talley, Dyer Findley, Birmingham (9)	1902
Thigpen, Charles Alston, Montgomery (2)	1900
Thomas, Eugene Marvin, Prattville (4)	1920
Ward, Henry Silas, Birmingham (9)	1915
Wilkinson, Fred Wooten, Montgomery (2)	1919
Wilkinson, David Leonidas, Birmingham (9)	1902
Total 54	

ACTIVE COUNSELLORS

Those marked with a † are serving last terms of six years.

Those marked with an asterisk (*) are serving second terms of seven years.

Those without a symbol are serving first terms of seven years.

The numeral is the number of the congressional district.

	Date of Elec- Expi- tion ration
Abernethy, Floyd L., Foley (2)	*1940 to 1947
Abbott, Chas. E., Tuscaloosa (6)	1938 to 1945
Acker, Charles T., Montevallo (6)	1937 to 1944
Acker, Paul Jerome Morris, Mobile (1)	†1937 to 1943
Alison, James F., Selma (4)	1934 to 1941
Anderson, Thos. J., Greensboro (6)	*1940 to 1947
Bedsole, James Goodman, Jackson (1)	†1936 to 1942
Belue, Julius O., Athens (8)	1937 to 1944
Boyd, Frank H., Opelika (3)	1939 to 1946
Brown, Elridge T., Cleveland (7)	1937 to 1944
Brunson, Emmett T., Samson (3)	1936 to 1943
Burdeshaw, Shelby L., Headland (3)	†1935 to 1941
Cannon, Douglas L., Montgomery (2)	*1935 to 1942

ACTIVE COUNSELLORS—Continued

	Elec- tion	Expi- ration
Carter, William R., Repton (2)	1934	to 1941
Chenault, Erskine M., Decatur (8)	1935	to 1942
Cocke, William T., Demopolis (1)	1939	to 1946
Craddock, French H., Sylacauga (4)	*1939	to 1946
Dabney, Marye Y., Birmingham (9)	†1937	to 1943
Daves, James G., Cullman (7)	1938	to 1945
Davis, Lewis C., Gordo (7)	1939	to 1946
Dowling, Judson Davis, Birmingham (9)	†1936	to 1942
Eskew, M. H., Uniontown (6)	1934	to 1941
Ford, Charles E., Roanoke (5)	1939	to 1946
Garber, James R., Birmingham (9)	*1939	to 1946
Gilder, George S., Carbon Hill (7)	1934	to 1941
Gragg, Vincent Jones, Clanton (6)	†1935	to 1941
Graham, Geo. S., Birmingham (9)	1936	to 1943
Granger, F. G., Ashford (3)	*1935	to 1942
Gresham, Walter A., Russellville (7)	*1940	to 1947
Grote, Carl A., Huntsville (8)	1937	to 1944
Hagood, M. H., Brewton (2)	†1938	to 1944
Hatchett, Wm. C., Huntsville (8)	*1936	to 1943
Hill, Robert C., York (6)	1936	to 1943
Hill, Robert L., Winfield (7)	†1938	to 1944
Hill, R. Lee, Haleyville (7)	1939	to 1946
Hodges, Rayford, Scottsboro (8)	1935	to 1942
Howell, John V., Marion (6)	1936	to 1943
Hubbard, T. Brannon, Montgomery (2)	†1938	to 1944
Huey, John F., Falkville (8)	1938	to 1945
James, Norman Gilchrist, Hayneville (2)	†1935	to 1941
Killingsworth, Noah W., Brundidge (2)	1939	to 1946
King, Chas. O., Birmingham (9)	1938	to 1945
Laslie, Carney G., Montgomery (2)	1939	to 1946
Ledbetter, Samuel L., Jr., Birmingham (9)	1935	to 1942
Lester, Belford S., Birmingham (9)	†1937	to 1943
Lewis, Walter A., Enterprise (3)	*1940	to 1947
Martin, John A., Montgomery (2)	*1940	to 1947
Mason, E. M., Birmingham (9)	†1938	to 1944
McCall, Daniel T., Mobile (1)	†1937	to 1943
McCullough, Henry C., Town Creek (8)	1938	to 1945
Moore, C. W. C., Talladega (4)	1937	to 1944
Moore, David S., Jr., Birmingham (9)	*1939	to 1946
Morgan, J. Orville, Gadsden (5)	1939	to 1946
Noland, Lloyd, Fairfield (9)	*1936	to 1943
Oswalt, G. G., Mobile (1)	*1936	to 1943
Parker, Lorenzo D., Andalusia (2)	*1940	to 1947
Perdue, James D., Mobile (1)	*1940	to 1947
Pickell, Frank W., Brewton (2)	1938	to 1945
Redden, Raymond Hollis, Sulligent (7)	†1940	to 1946
Riser, William H., Lafayette (5)	1935	to 1942
Rountree, W. S., Wylam (9)*	†1938	to 1944
Rucker, Edmon W., Birmingham (9)	†1936	to 1942
Salter, Wilbur M., Anniston (4)	1934	to 1941
Scarborough, B. C., Albertville (5)	1935	to 1942
Scott, Walter F., Birmingham (9)	†1936	to 1942
Searcy, Harvey Brown, Tuscaloosa (6)	†1937	to 1943
Sherrill, John D., Birmingham (9)	1939	to 1946
Shropshire, Courtney William, B'ham (9)	†1937	to 1943
Simpson, Harry M., Florence (8)	1938	to 1945
Skinner, Marcus, Selma (4)	1939	to 1946
Sledge, Edward Simmons, Mobile (1)	†1936	to 1942
Smith, Gordon R., Ozark (3)	1934	to 1941
Smith, Merle E., Parrish (7)	1938	to 1945
Stabler, Lorenzo V., Greenville (2)	1937	to 1944
Stallworth, William A., Frisco City (1)	1937	to 1944
Tankersley, James, Prattville (4)	*1935	to 1942
Taylor, Woodie R., Town Creek (8)	†1939	to 1945
Thacker Vincent J., Dothan (3)	1935	to 1942
Tillman, John S., Clio (3)	1935	to 1942
Waldrop, R. W., Bessmer (9)	†1936	to 1942
Walker, Alfred A., Birmingham (9)	†1937	to 1943
Walls, J. J., Alexander City (5)	†1938	to 1944
Walsh, Groesbeck, Fairfield (9)	*1940	to 1947
Waters, Hinton W., Opp (2)	1939	to 1946
Watson, Jerre, Anniston (4)	1938	to 1945
Weil, Clarence K., Montgomery (2)	1937	to 1944

**Deceased.

ACTIVE COUNSELLORS—Continued

	Elec- tion	Expi- ration
Welch, Stewart, Birmingham (9)	1934	to 1941
Weldon, Joseph M., Mobile (1)	1935	to 1942
White, Alexander L., Thomasville (1)	*1935	to 1942
Wood, Wiley D., Camp Hill (5)	*1940	to 1947
Wright, David H., Berry (7)	*1939	to 1946
Total 91		

COUNSELLORS-ELECT

Collier, James P., Tuscaloosa (6)	1940	to 1947
Gibson, Edward Lee, Enterprise (3)	1940	to 1947
Isbell, Arthur L., Albertville (5)	1940	to 1947
Jackson, Albert Chas., Jasper (7)	1940	to 1947
Killian, Claud D., Ft. Payne (5)	1940	to 1947
McCaslan, W. Hill, Union Springs (3)	1940	to 1947
Sewell, John Ferris, Wetumpka (4)	1940	to 1947
Smith, Joe P., Eutaw (6)	1940	to 1947
Woodruff, Gerald G., Anniston (4)	1940	to 1947
Total 9		

THE ROLL OF THE COLLEGE OF COUNSELLORS BY CONGRESSIONAL DISTRICTS

On this roll the names of the Counsellors are given by Congressional Districts. It is intended to serve as a guide in the election of new Counsellors, with a view to the distribution of them in approximate proportion to the number of members in the several districts. It is not considered to be good policy, and it is not considered to be fair and right, to give a few large towns greatly more than their pro rata share of Counsellors. The calculations are based on the nearest whole number. On April 1, 1940, there were 1,594 members in the County Medical Societies. That would give one Counsellor to every 16 members. The membership set forth in the following is that of April 1.

FIRST DISTRICT

Names of Counsellors—W. T. Cocke, Marengo; J. G. Bedsole and A. L. White, Clarke; E. S. Sledge, P. J. M. Acker, D. T. McCall, G. G. Oswalt, J. M. Weldon and J. D. Perdue, Mobile; W. A. Stallworth, Monroe.

County	Members	Counsellors
Choctaw	9	0
Clarke	14	2
Marengo	20	1
Mobile	95	6
Monroe	14	1
Washington	4	0
Wilcox	11	0
	167	10

SECOND DISTRICT

Names of Counsellors—F. L. Abernethy, Baldwin; L. V. Stabler, Butler; W. R. Carter, Conecuh; L. D. Parker and H. W. Waters, Covington; M. H. Hagood and F. W. Pickell, Escambia; N. G. James, Lowndes; T. B. Hubbard, C. G. Laslie, J. A. Martin, C. K. Weil and Douglas L. Cannon, Montgomery; and N. W. Killingsworth, Pike.

County	Members	Counsellors
Baldwin	12	1
Butler	15	1
Conecuh	9	1
Covington	20	2
Crenshaw	9	0
Escambia	16	2
Lowndes	5	1
Montgomery	94	5
Pike	18	1
	198	14

THIRD DISTRICT

Names of Counsellors—J. S. Tillman, Barbour; W. H. McCaslan, Bullock; E. L. Gibson and W. A. Lewis, Coffee; G. R. Smith, Dale; E. T. Brunson, Geneva; S. L. Burdeshaw, Henry; V. J. Thacker and F. G. Granger, Houston; and F. H. Boyd, Lee.

County	Members	Counsellors
Barbour	13	1
Bullock	7	1
Coffee	16	2
Dale	11	1
Geneva	18	1
Henry	10	1
Houston	30	2
Lee	19	1
Macon	9	0
Russell	7	0
	140	10

FOURTH DISTRICT

Names of Counsellors—James Tankersley, Autauga; W. M. Salter, Jerre Watson and G. G. Woodruff, Calhoun; J. F. Alison and Marcus Skinner, Dallas; J. F. Sewell, Elmore; and French Craddock and C. W. C. Moore, Talladega.

County	Members	Counsellors
Autauga	7	1
Calhoun	40	3
Clay	9	0
Coosa	6	0
Dallas	33	2
Elmore	14	1
St. Clair	12	0
Talladega	23	2
	144	9

FIFTH DISTRICT

Names of Counsellors—W. H. Riser, Chambers; C. D. Killian, DeKalb; J. O. Morgan, Etowah; A. L. Isbell and B. C. Scarbrough, Marshall; C. E. Ford, Randolph; and J. J. Walls and W. D. Wood, Tallapoosa.

County	Members	Counsellors
Chambers	17	1
Cherokee	3	0
Cleburne	4	0
DeKalb	20	1
Etowah	51	1
Marshall	21	2
Randolph	14	1
Tallapoosa	16	2
	146	8

SIXTH DISTRICT

Names of Counsellors—V. J. Gragg, Chilton; J. P. Smith, Greene; T. J. Anderson, Hale; M. H. Eskew and J. V. Howell, Perry; C. T. Acker, Shelby; R. C. Hill, Sumter; and J. P. Collier, H. B. Searcy and C. E. Abbott, Tuscaloosa.

County	Members	Counsellors
Bibb	11	0
Chilton	17	1
Greene	7	1
Hale	9	1
Perry	12	2
Shelby	17	1
Sumter	14	1
Tuscaloosa	50	3
	137	10

SEVENTH DISTRICT

Names of Counsellors—E. T. Brown, Blount; J. G. Daves, Cullman; D. H. Wright, Fayette; W. A. Gresham, Franklin; R. H. Redden, Lamar; Robert L. Hill, Marion; L. C. Davis, Pickens; G. S. Gilder, A. C. Jackson and M. E. Smith, Walker; and R. Lee Hill, Winston.

County	Members	Counsellors
Blount	11	1
Cullman	15	1
Fayette	9	1
Franklin	15	1
Lamar	12	1
Marion	15	1
Pickens	14	1
Walker	35	3
Winston	8	1
	134	11

EIGHTH DISTRICT

Names of Counsellors—Rayford Hodges, Jackson; H. M. Simpson, Lauderdale; W. R. Taylor and H. C. McCullough, Lawrence; J. O. Belue, Limestone; W. C. Hatchett and C. A. Grote, Madison; and E. M. Chenault and J. F. Huey, Morgan.

County	Members	Counsellors
Colbert	18	0
Jackson	14	1
Lauderdale	22	1
Lawrence	8	2
Limestone	13	1
Madison	28	2
Morgan	26	2
	129	9

NINTH DISTRICT

Names of Counsellors—G. S. Graham, S. H. Welch, J. D. Sherrill, R. W. Waldrop, W. F. Scott, E. W. Rucker, J. D. Dowling, M. Y. Dabney, B. S. Lester, C. W. Shropshire, Alfred A. Walker, E. M. Mason, W. S. Rountree*, Lloyd Noland, J. R. Garber, D. S. Moore, Jr., Groesbeck Walsh, C. O. King and S. L. Ledbetter, Jr.

County	Members	Counsellors
Jefferson	399	19

*Deceased.

THE ROLL OF CORRESPONDENTS

"Distinguished members of the medical profession residing outside of the State, and Counselors of the Association, who after not less than ten years of faithful service may have resigned their counsellorships, shall be eligible for election as Correspondents.

"Correspondents shall have the privilege of transmitting or presenting to the Association such communications, or scientific essays, as they may deem proper."—*From the Constitution.*

<i>Name and Address</i>	<i>Date of Election</i>
Andrew J. Coley, Oklahoma City	1909
W. S. Thayer, Baltimore	1921
Lewellys F. Barker, Baltimore	1921
Rudolph Matas, New Orleans	1921
Frank Smithies, Chicago	1921
John B. Elliott, Jr., New Orleans	1921
Howard A. Kelly, Baltimore	1921
Wm. J. Mayo, Rochester, Minn.	1921
George W. Crile, Cleveland, Ohio	1921
Henry A. Christian, Boston	1921
J. Whitridge Williams, Baltimore, Md.	1921
H. A. Royster, Raleigh, N. C.	1926
Stewart Roberts, Atlanta	1927
G. Canby Robinson, Baltimore	1928
Louis B. Wilson, Rochester, Minn.	1930
R. S. Cunningham, Nashville	1932
A. Benson Cannon, New York	1932
J. Shelton Horsley, Richmond	1933
Russell L. Cecil, New York	1934
George H. Semken, New York	1935
Frank H. Lahey, Boston	1937
T. M. McMillan, Philadelphia	1938
George T. Pack, New York	1939
E. V. McCollum, Baltimore	1940

SCHEDULE OF THE ANNUAL SESSIONS
AND PRESIDENTS SINCE THE RE-
ORGANIZATION IN 1868

<i>Place and President</i>	<i>Year</i>
Selma—Albert Galatin Mabry	1868
Mobile—Albert Galatin Mabry	1869
Montgomery—Richard Frazer Michel	1870
Mobile—Francis Armstrong Ross	1871
Huntsville—Thomas Childress Osborne	1872
Tuscaloosa—George Ernest Kumpe	1873
Selma—George Augustus Ketchum	1874
Montgomery—Job Sobieski Weatherly	1875
Mobile—John Jefferson Dement	1876
Birmingham—Edward Davies McDaniel	1877
Eufaula—Peter Bryce	1878
Selma—Robert Dickens Webb	1879
Huntsville—Edmond Pendleton Gaines	1880
Montgomery—William Henry Anderson	1881
Mobile—John Brown Gaston	1882
Birmingham—Clifford Daniel Parke	1883
Selma—Mortimer Harvey Jordan	1884
Greenville—Benjamin Hogan Riggs	1885
Anniston—Francis Marion Peterson	1886
Tuscaloosa—Samuel Dibble Seelye	1887
Montgomery—Edward Henry Sholl	1888
Mobile—Milton Columbus Baldrige	1889
Birmingham—Charles Higgs Franklin	1890
Huntsville—William Henry Sanders	1891

<i>Place and President</i>	<i>Year</i>
Montgomery—Benjamin James Baldwin	1892
Selma—James Thomas Searcy	1893
Birmingham—Thaddeus Lindley Robertson	1894
Mobile—Richard Matthew Fletcher	1895
Montgomery—William Henry Johnston	1896
Selma—Barckley Wallace Toole	1897
Birmingham—Luther Leonidas Hill	1898
Mobile—Henry Altamont Moody	1899
Montgomery—John Clarke LeGrande	1900
Selma—Russell McWhorter Cunningham	1901
Birmingham—Edwin Lesley Marechal	1902
Talladega—Glenn Andrews	1903
Mobile—Matthew Bunyan Cameron	1904
Montgomery—Capers Capehart Jones	1905
Birmingham—Eugene DuBose Bondurant	1906
Mobile—George Tighlman McWhorter	1907
Montgomery—Samuel Wallace Welch	1908
Birmingham—Benjamin Leon Wyman	1909
Mobile—Wooten Moore Wilkerson	1910
Montgomery—Wyatt Heflin Blake	1911
Birmingham—Lewis Coleman Morris	1912
Mobile—Harry Tutwiler Inge	1913
Montgomery—Robert S. Hill	1914
Birmingham—Benjamin Britt Simms	1915
Mobile—James Norment Baker	1916
Montgomery—Henry Green	1917
Birmingham—William Dempsey Partlow	1918
Mobile—Isaac LaFayette Watkins	1919
Anniston—James Somerville McLester	1920
Montgomery—Louis William Johnston	1921
Birmingham—Dyer F. Talley	1922
Mobile—Walter S. Britt	1923
Montgomery—W. W. Harper	1924
Birmingham—J. D. Heacock	1925
Mobile—C. A. Mohr	1926
Montgomery—A. L. Harlan	1927
Birmingham—John D. S. Davis	1928
Mobile—E. V. Caldwell	1929
Montgomery—L. E. Broughton	1930
Birmingham—W. G. Harrison	1931
Mobile—Toulmin Gaines	1932
Montgomery—Samuel Kirkpatrick	1933
Birmingham—James R. Garber	1934
Mobile—William M. Cunningham	1935
Montgomery—Charles A. Thigpen	1936
Birmingham—Lloyd Noland	1937
Mobile—E. S. Sledge	1938
Montgomery—Seale Harris, Sr.	1939
Birmingham—M. S. Davie	1940

SECRETARIES OF THE ASSOCIATION

1852-1854	George A. Ketchum
1854-1855	R. Miller
1869-1873	Jerome Cochran
1874-1878	B. H. Riggs
1879-1892	T. A. Means
1893-1897	J. R. Jordan
1897-1904	G. P. Waller
1904-1906	L. C. Morris
1906-1915	J. N. Baker
1915-1923	H. G. Perry
1923-1924	Douglas L. Cannon
1924-1930	B. B. Simms
1930-1940	Douglas L. Cannon

TREASURERS OF THE ASSOCIATION

1854-1855	W. P. Reese
1869-1898	W. C. Jackson
1898-1915	H. G. Perry
1915-1939	J. U. Ray

SECRETARY-TREASURERS OF THE ASSOCIATION

1940-	Douglas L. Cannon
-------	-------------------

SCHEDULE OF JEROME COCHRAN LECTURERS

- 1899—J. T. Searcy, Tuscaloosa—What Is Insanity?
 1900—Wm. Osler, Baltimore—Not present.
 1901—Wm. Osler, Baltimore—Not present.
 1902—Nathan Bozeman, New York—Declined.
 1903—George H. Price, Nashville—The History of Medicine.
 1904—W. S. Thayer, Baltimore—Cardiac and Vascular Complications of Typhoid Fever.
 1905—Robert Abbe, New York—The Problems of Surgery.
 1906—Joseph Collins, Boston—Arteriosclerosis.
 1907—Nicholas Senn, Chicago—Final Triumph of Scientific Medicine.
 1908—E. L. Marechal, Mobile—Absent.
 1909—Lewellys F. Barker, Baltimore—Clinical Methods of Cardiac Investigation.
 1910—Frank S. Meara, New York—Some Problems of Nutrition in Early Life.
 1911—Rudolph Matas, New Orleans—Inflammatory Tuberculosis.
 1912—Maurice H. Richardson, Boston—Elimination of Preventable Disasters from Surgery.
 1913—L. L. Hill, Montgomery—Surgical Complications and Sequelae of Typhoid Fever.
 1914—Frank Smithies, Chicago—Contributions of the Twentieth Century to the Better Understanding of Gastric Cancer.
 1915—John B. Elliott, Jr., New Orleans—Abscess of Liver.
 1916—Howard A. Kelly, Baltimore—Radium Therapy.
 1917—Wm. J. Mayo, Rochester—Importance of Septic Infection in the Three Great Plagues.
 1918—George E. Bushnell, Washington—The Army in Relation to the Tuberculosis Problem.
 1919—George W. Crile, Cleveland, Ohio—Abdominal Surgery in Civil and Military Hospitals.
 1920—Henry A. Christian, Boston—Bright's Disease With Special Reference to Its Treatment.
 1921—J. Whitridge Williams, Baltimore—A Critical Review of Twenty-One Years' Experience with Caesarean Section.
 1922—Chas. H. Mayo, Rochester, Minn.—The Thyroid and Its Diseases.
 1923—Jas. S. McLester, Birmingham—Nutrition in Its Newer Aspects.
 1924—James S. Stone, Boston—Abdominal Diagnoses in Children.
 1925—H. A. Royster, Raleigh—The Surgeon's Heritage and Outlook.

- 1926—Stewart Roberts, Atlanta—The Heart Muscle.
 1927—G. Canby Robinson, Baltimore—The Mechanism of Heart Failure and Its Correction.
 1928—John B. Deaver, Philadelphia—Chronic Pancreatitis.
 1929—Louis B. Wilson, Rochester, Minn.—Some Suggestions for Improved Training of Medical Specialists.
 1930—Walter E. Sistrunk, Dallas, Texas—The Part That Surgical Anesthesia Has Played in Medical Science.
 1931—R. S. Cunningham, Nashville, Tenn.—Studies on the Pathology of Tuberculosis and Syphilis.
 1932—A. Benson Cannon, New York—Practical Points on the Diagnosis and Treatment of the so-called Lymphoblastoma Group of Diseases.
 1933—J. Shelton Horsley, Richmond—Cancer of the Stomach and Colon.
 1934—Russell L. Cecil, New York—Present Trends in the Study of Rheumatic Fever and Rheumatoid Arthritis.
 1935—George H. Semken, New York—A Consideration of Tumors of the Breast.
 1936—William D. Partlow, Tuscaloosa—A Debt the World Owes Medical Science.
 1937—Frank H. Lahey, Boston—Carcinoma of the Colon and Rectum.
 1938—T. M. McMillan, Philadelphia—An Optimistic View of Some of the Problems of Heart Disease.
 1939—George T. Pack, New York—Recent Advances in the Radiation Therapy of Cancer.
 1940—E. V. McCollum, Baltimore—Some Contributions of Nutritional Research to Clinical Medicine.

OFFICERS OF THE ASSOCIATION

PRESIDENT

S. A. Gordon (1941)	Marion
---------------------	--------

VICE-PRESIDENTS

J. Paul Jones (1941)	Camden
R. C. Stewart (1942)	Sylacauga
J. S. Tillman (1943)	Clio
M. E. Smith (1944)	Parrish

SECRETARY-TREASURER

Douglas L. Cannon (1945)	Montgomery
--------------------------	------------

THE STATE BOARD OF CENSORS

E. V. Caldwell, Chm. (1945)	Huntsville
M. S. Davie (1945)	Dothan
K. A. Mayer (1941)	Lower Peach Tree
M. Y. Dabney (1941)	Birmingham
T. B. Hubbard (1942)	Montgomery
W. D. Partlow (1942)	Tuscaloosa
French Craddock (1943)	Sylacauga
F. W. Wilkerson (1943)	Montgomery
J. D. Perdue (1944)	Mobile
Lloyd Noland (1944)	Birmingham

STATE HEALTH OFFICER

J. N. BAKER (1945)	Montgomery
DELEGATES AND ALTERNATES TO THE AMERICAN MEDICAL ASSOCIATION	
Delegate—J. N. BAKER	Montgomery
Alternate—FRED WILKERSON	Montgomery
(Terms expire with the 1941 session of the American Medical Association)	
Delegate—A. A. WALKER	Birmingham
Alternate—G. O. SEGREST	Mobile
(Terms expire with the 1942 session of the American Medical Association)	

COMMITTEE ON PUBLIC RELATIONS

JOHN A. MARTIN, Chairman, Montgomery	1941
G. O. SEGREST, Mobile	1942
J. R. GARBER, Birmingham	1943
M. M. DUNCAN, Huntsville	1944
F. H. CRADDOCK, Sylacauga	1945

COMMITTEE ON MENTAL HYGIENE

FRANK A. KAY, Chairman, Tuscaloosa	1941
W. S. LITTLEJOHN, Birmingham	1942
E. S. SLEDGE, Mobile	1943

COMMITTEE ON MATERNAL AND INFANT WELFARE

A. E. THOMAS, Chairman, Montgomery	1941
P. S. WOODALL, Birmingham	1942
HUGHES KENNEDY, JR., Birmingham	1940

COMMITTEE ON CANCER CONTROL

J. P. CHAPMAN, Chairman, Selma	1943
K. F. KESMODEL, Birmingham	1941
H. M. SIMPSON, Florence	1942

COMMITTEE ON PREVENTION OF BLINDNESS AND DEAFNESS

J. T. CATER, Chairman, Montgomery	1943
LUCIEN BROWN, Gadsden	1942
B. B. WARWICK, Talladega	1941

COMMITTEE ON POSTGRADUATE STUDY

RALPH McBURNEY, Chairman, University	1942
CABOT LULL, Birmingham	1941
CLARENCE K. WEIL, Montgomery	1943

COMMITTEE ON ACCIDENTS AND INDUSTRIAL HYGIENE

H. EARLE CONWELL, Chmn, Birmingham	1942
MARCUS SKINNER, Selma	1941
J. R. CAIN, Montgomery	1943

COMMITTEE ON ARCHIVES AND HISTORY

TOULMIN GAINES, Chmn, Mobile	1941
M. Y. DABNEY, Birmingham	1942
S. A. GORDON, Marion	1943

COMMITTEE ON PHYSICIAN-DRUGGIST RELATIONSHIPS

SEALE HARRIS, SR., Chm., Birmingham	1941
N. G. CLARK, Montgomery	1942
W. M. SALTER, Anniston	1943

REGISTRATION AT THE SEVENTY-THIRD CONSECUTIVE ANNUAL SESSION

BIRMINGHAM, APRIL 16-18, 1940

LIFE COUNSELLORS

Ashcraft, V. L., Reform	Heacock, J. D., Birmingham	Mayer, K. A., Lower Peach Tree
Baker, J. N., Montgomery	Heflin, Wyatt, Birmingham	McLester, J. S., Birmingham
Caldwell, E. V., Huntsville	Hill, R. S. Montgomery	Partlow, W. D., Tuscaloosa
Cameron, M. B., Eutaw	Howell, W. E., Haleyville	Price, A. B., Gordo
Chenault, F. L., Decatur	Howle, J. A., Hartselle	Speir, P. V., Greenville
Cunningham, W. M., Jasper	Jackson, A. A., Florence	Talley, D. F., Birmingham
Davie, M. S., Dothan	Lull, Cabot, Birmingham	Ward, H. S., Birmingham
Faulk, W. M., Tuscaloosa	Lupton, F. A., Birmingham	Wilkerson, Fred, Montgomery
Gordon, S. A., Marion	Martin, J. C., Cullman	Wilkinson, D. L., Birmingham
Harris, Seale, Birmingham	Mason, J. M., Birmingham	

ACTIVE COUNSELLORS

Abbott, C. E., Tuscaloosa	Daves, J. G., Cullman	Hill, R. C., York
Acker, C. T., Montevallo	Dowling, J. D., Birmingham	Hill, R. L., Winfield
Alison, J. F., Selma	Eskew, M. H., Uniontown	Hill, R. Lee, Haleyville
Bedsole, J. G., Jackson	Ford, C. E., Roanoke	Hodges, Rayford, Scottsboro
Belue, J. O., Athens	Garber, J. R., Birmingham	Howell, J. V., Marion
Boyd, Frank, Opelika	Gilder, G. S., Carbon Hill	Hubbard, T. B., Montgomery
Brown, E. T., Cleveland	Gragg, V. J., Clanton	Huey, J. F., Falkville
Burdshaw, S. L., Headland	Graham, G. S., Birmingham	King, C. O., Birmingham
Cannon, D. L., Montgomery	Granger, F. G., Ashford	Leach, Sydney, Tuscaloosa
Carter, W. R., Repton	Gresham, W. A., Russellville	Ledbetter, S. L., Jr., Birmingham
Chenault, E. M., Decatur	Grote, C. A., Huntsville	Lewis, W. A., Enterprise
Cocke, W. T., Demopolis	Hagood, M. H., Brewton	Martin, John A., Montgomery
Craddock, F. H., Sylacauga	Hatchett, W. C., Huntsville	Mason, E. M., Birmingham
Dabney, M. Y., Birmingham	Hayes, C. P., Elba	McAdory, E. D., Cullman

McCall, D. T., Mobile
McCullough, H. C., Town Creek
Moore, D. S., Birmingham
Morgan, J. O., Gadsden
Noland, Lloyd, Fairfield
Parker, L. D., Andalusia
Perdue, J. D., Mobile
Pickell, F. W., Brewton
Redden, R. H., Sulligent
Riser, W. H., LaFayette
Rountree, W. S., Birmingham
Rucker, E. W., Jr., Birmingham

Salter, W. M., Anniston
Scarbrough, B. C., Albertville
Scott, W. F., Birmingham
Searcy, H. B., Tuscaloosa
Sherrill, J. D., Birmingham
Shropshire, C. W., Birmingham
Simpson, H. M., Florence
Smith, M. E., Parrish
Tankersley, James, Prattville
Taylor, W. R., Town Creek
Thacker, V. J., Dothan
Thomas, E. M., Prattville

Tillman, J. S., Clio
Waldrop, R. W., Bessemer
Walker, A. A., Birmingham
Walls, J. J., Alexander City
Walsh, Groesbeck, Fairfield
Weil, C. K., Montgomery
Welch, S. H., Birmingham
Weldon, J. M., Mobile
White, A. L., Thomasville
Wood, W. D., Camp Hill
Wright, D. H., Berry

DELEGATES

Autauga: G. E. Newton, Prattville; G. M. Taylor, Prattville.
Barbour: H. G. Clark, Clayton; E. T. Comer, Eufaula.
Bibb: L. E. Peacock, West Blocton; T. E. Schoolar, Centerville.
Blount: C. L. Stansberry, Oneonta; F. F. Whitehead, Blountsville.
Bullock: D. F. Parker, Union Springs.
Butler: William Askew, Greenville; J. E. Kendrick, Greenville.
Calhoun: W. E. White, Anniston; G. G. Woodruff, Anniston.
Chambers: A. B. Lee, Shawmut; W. L. Marshall, Langdale.
Cherokee: S. C. Tatum, Centre.
Choctaw: D. B. Snelling, Butler.
Clarke: W. S. Chapman, Jackson; R. D. Neal, Grove Hill.
Clay: L. G. Cole, Ashland; J. S. Gay, Ashland.
Coffee: E. G. Bragg, Elba; E. L. Gibson, Enterprise.
Colbert: W. H. Blake, Jr., Sheffield; R. D. Wright, Leighton.
Conecuh: E. L. Kelly, Repton.
Coosa: J. A. R. Chapman, Goodwater.
Covington: J. C. Hurst, Opp; V. Q. Rawls, Red Level.
Crenshaw: M. L. Morgan, Luverne.
Cullman: G. T. Rowe, Hanceville.
Dallas: L. T. Lee, Selma; K. E. Luckie, Selma.
DeKalb: R. J. Guest, Ft. Payne.

Elmore: C. S. Cotlin, Jr., Wetumpka.
Escambia: W. J. Donald, Brewton; A. J. Treherne, Atmore.
Etowah: E. H. Cross, Jr., Gadsden; J. P. Gillespie, Gadsden.
Fayette: B. W. McNease, Fayette.
Franklin: Price Clayton, Russellville; T. J. Glasgow, Russellville.
Geneva: C. P. Gay, Geneva; D. Stephens, Slocomb.
Greene: C. D. Mason, Eutaw.
Hale: B. M. Drake, Greensboro; I. H. Griffin, Moundville.
Houston: W. T. Burkett, Dothan; T. K. McFatter, Dothan.
Jackson: M. H. Lynch, Scottsboro; W. C. Williams, Bridgeport.
Jefferson: J. L. Carmichael, Birmingham; H. R. Carter, Birmingham; J. F. Jenkins, Sr., Birmingham; K. J. Kinkead, Birmingham; H. T. McGehee, Birmingham; S. R. Terhune, Birmingham; S. S. Underwood, Birmingham; G. W. Williamson, Bessemer.
Lamar: C. A. Davis, Kennedy.
Lauderdale: T. L. Bennett, Jr., Florence.
Lawrence: J. P. Dyar, Moulton; J. A. Ussery, Courtland.
Lee: P. W. Auston, Opelika.
Limestone: J. S. Crutcher, Jr., Athens.
Madison: E. J. Hodges, New Hope; Moody Walker, Huntsville.
Marengo: W. E. Allen, Sweet Water; J. P. Howell, Demopolis.

Marion: S. S. Busby, Hamilton; B. B. Garlington, Brilliant.
Marshall: A. L. Isbell, Albertville; Lee Weathington, Gunterville.
Monroe: J. T. Hall, Monroeville; W. D. Minot, Monroeville.
Mobile: W. H. Minor, Mobile; J. H. Little, Mobile; E. B. Frazer, Mobile.
Montgomery: Nathan Bograd, Montgomery; H. J. Climo, Montgomery; D. B. Monsky, Montgomery; F. W. Riggs, Montgomery.
Perry: A. F. Wilkerson, Marion.
Pickens: C. M. Murphy, Aliceville; R. K. Wilson, Carrollton.
Pike: T. D. McKnight, Brundidge; H. M. Sacks, Troy.
Randolph: J. T. Clack, Wadley; A. J. Gay, Roanoke.
Shelby: J. H. Crawford, Columbiana.
St. Clair: Frank Stitt, Pell City.
Sumter: L. F. Jackson, Panola; S. J. Williams, Livingston.
Talladega: D. P. Dixon, Talladega; R. C. Stewart, Sylacauga.
Tallapoosa: J. A. Chapman, Alex City; L. H. Hamner, Camp Hill.
Tuscaloosa: Stuart Graves, Tuscaloosa; Ralph McBurney, Tuscaloosa.
Walker: William Gurganus, Cordova; A. M. Waldrop, Jasper.
Washington: T. T. Box, Chatom.
Wilcox: Walter Fudge, Lamson.
Winston: R. F. Blake, Haleyville; C. A. Olivet, Haleyville.

MEMBERS

A

Abernethy, W. H., Troy
Abrams, M. J., Brewton
Akin, J. M., Birmingham
Alexander, W. W., Florence
Allgood, H. W., Fairfield
Anderson, B. F., Sellers

Anderson, William, Glencoe
Andrews, Neal L., Birmingham
Atwood, A. L., Birmingham
Auston, P. W., Opelika

B

Bancroft, Joe, Birmingham
Banks, J. T., Dadeville

Barclift, W. C., Birmingham
Barker, H. E., Boaz
Barnes, J. M., Montgomery
Bealle, J. S., Holt
Becton, J. A., Birmingham
Berrey, I. C., Birmingham
Berrey, Ruth, Birmingham
Berry, R. A., Birmingham

Berry, W. T., Birmingham
Black, J. W., Ensley
Blakeney, A. L., Fayette
Blue, J. H., Bessemer
Board, O. P., Birmingham
Bobo, J. E., Boaz
Bobo, J. S., Gadsden
Booth, J. L., Elrod
Boudreau, F. T., Mobile
Boulware, T. M., Birmingham
Bradford, D. C., Birmingham
Bragg, J. C., Decatur
Brannon, R. M., Birmingham
Branscomb, Louise, Birmingham
Branyon, A. C., Fayette
Bristow, B. T., Bessemer
Britton, J. W., Anniston
Brown, Hunter, Birmingham
Bruce, B. S., Opelika
Burkhalter, W. D., Montgomery
Burns, W. A., Birmingham

C

Caffey, B. F., Choccolocco
Carter, M. Barfield, Birmingham
Cater, J. T., Montgomery
Chandler, J. R., Bessemer
Chapman, J. C., Birmingham
Chapman, J. P., Selma
Cherry, Alfred, Birmingham
Chisolm, J. S., Selma
Clack, J. M., West Point, Ga.
Clark, N. G., Montgomery
Clayton, E. C., Leeds
Clements, F. H., Birmingham
Clements, R. M., Tuscaloosa
Cleveland, C. H., Anniston
Cloud, R. E., Ensley
Clyde, Wallace, Birmingham
Cobbs, B. W., Montgomery
Coggin, F. R. B., Waverly
Coleman, G. C., Fairfield
Coleman, W. E., Birmingham
Collier, J. P., Tuscaloosa
Collier, S. W., Birmingham
Collins, Thomas, Birmingham
Colquitt, C. J., Bessemer
Comer, R. T., Birmingham
Compton, W. W., Fairfield
Conwell, H. E., Birmingham
Connell, I. L., Birmingham
Cooper, J. B., Birmingham
Coston, R. M., Birmingham
Cowles, A. D., Ramer
Cowles, T. D., Troy
Cowles, W. L., Shawmut
Coyle, D. J., Birmingham
Crawford, J. M., Arab
Creely, H. C., Birmingham
Culbertson, A. E., Anniston
Culpepper, R. A., Cullman
Curtis, R. C., Calera

D

Daly, E. W., Birmingham
Darden, W. H., Birmingham
Davenport, L. O., Birmingham
Davidson, A. W., Bessemer

Davidson, M. T., Birmingham
Davie, N. T., Anniston
Davis, J. W., Jr., Montgomery
Day, Edward, Maplesville
Dean, Leon, Birmingham
Deaver, W. T., Adamsville
Derison, G. A., Birmingham
Denney, J. L., Alex City
Dodson, R. B., Cullman
Donald, D. C., Birmingham
Donald, J. M., Birmingham
Donald, T. C., Birmingham
Douglas, G. F., Birmingham
Douglass, John, Birmingham
Dowling, H. B., Mobile
Drennen, Earle, Birmingham
Dunn, J. E., Florence
Durden, J. D., Anniston
Durrett, E. B., Bessemer

E

Edwards, W. A., Roanoke
Elgin, C. E., Praco
Ellis, F. F., Birmingham
Elrod, R. F., Collinsville
Embry, J. C., Vincent
Emens, E. R., Decatur

F

Farmer, H. R., Fairfield
Faucett, DeWitt, Gadsden
Faucett, G. L., Gadsden
Feulner, C. D., Selma
Finney, J. O., Gadsden
Fisher, C. J., Montgomery
Fonville, W. D., Birmingham
Ford, C. H., Birmingham
Foster, J. M., Birmingham
Fox, Carl, Birmingham
Frank, H. W., Gadsden

G

Gaines, Herbert, Fairfield
Gamble, W. M., Wetumpka
Garmon, C. N., Bessemer
Garrison, J. E., Birmingham
Geperin, Jules, Birmingham
Gipson, A. C., Gadsden
Gillespy, C. H., Birmingham
Givhan, E. G., Birmingham
Gladney, J. C., Jasper
Glaze, A. L., Birmingham
Godbold, J. C., Whatley
Golden, W. C., Clanton
Goldner, Harry, Birmingham
Goldstein, Ben, Birmingham
Goode, J. H., Tuscaloosa
Graham, A. H., Opelika
Grayson, Richard, Selma
Green, A. H., Birmingham
Green, E. P., Birmingham
Green, R. C., Birmingham
Greene, Gilbert, Birmingham
Gwin, P. E., Sumiton

H

Hagood, D. S., Montgomery
Haisten, D. C., Dothan

Hairston, W. G., Birmingham
Hall, G. W., Northport
Hall, S. P., Scottsboro
Hamilton, G. C., Piedmont
Hamrick, R. A., Birmingham
Hamrick, R. H., Birmingham
Hanby, E. K., Attalla
Hannon, W. C., Mobile
Hardin, S. T., Tuscaloosa
Hardy, W. B., Birmingham
Harris, Edward, Birmingham
Harris, Esau, Bessemer
Harris, F. W., Birmingham
Harris, H. A., Birmingham
Harris, Seale, Jr., Birmingham
Haun, J. F., Scottsboro
Henderson, H. H., Greenville
Hightower, R. G., Fairfield
Hill, Hugh W., Carrollton
Hill, J. H., Talladega
Hill, L. L., Jr., Montgomery
Hillhouse, J. L., Birmingham
Hirsh, J. E., Birmingham
Holley, A. F., Brewton
Holman, N. W., Ozark
Horn, J. R., Jr., Bessemer
Hughes, B. A., Tarrant
Hughes, J. W., Decatur
Hughes, V. P., Cullman
Hunt, H. C., Livingston
Hunt, M. T., Boaz

I

Irvin, W. H., Birmingham
Issos, D. N., Birmingham

J

Jackson, A. C., Jasper
Jackson, B. F., Montgomery
Jackson, H. L., Birmingham
Jenkins, J. F., Sr., Birmingham
Jenkins, L. A., Birmingham
Jones, J. P., Camden
Jones, W. C., Birmingham
Jones, W. N., Birmingham
Jordan, J. S., Birmingham
Jordan, O. L., Tuscaloosa
Joseph, Kellie, Birmingham

K

Kahn, S. A., Birmingham
Kay, Frank A., Tuscaloosa
Kennedy, F. F., Birmingham
Kennedy, Hughes, Jr., Birmingham
Kesmodel, K. F., Birmingham
Killian, C. D., Ft. Payne
Kimbrough, C. E., Linden
Kimbrough, R. M., Birmingham
Kimmey, J. M., Anniston
Kirby, L. E., Birmingham
Kirk, A. A., Tuscaloosa
Kirkpatrick, S. M., Selma
Knight, J. H., Birmingham
Krout, C. F., Brent

L

Lamar, C. L., Birmingham
Lawrence, Toombs, Tuscaloosa
Lawson, C. L., Acmar
Lee, F. J., Cottonwood
Lewis, C. F., Birmingham
Lewis, T. K., Birmingham
Leyden, H. A., Anniston
Linder, Hugh, Birmingham
Lineberry, E. D., Birmingham
Linn, J. E., Birmingham
Lister, R. H., Birmingham
Littlejohn, W. S., Birmingham
Locke, W. W., Birmingham
Long, D. J., Montgomery
Long, W. H., Birmingham
Lonnergan, L. R., Gadsden
Lovelady, Grady, Birmingham

M

Magruder, T. V., Birmingham
Majors, W. B., Tuscaloosa
Martin, F. J., Montgomery
Martin, H. F., Birmingham
Martin, W. A., Birmingham
Martz, Harry, Birmingham
Massey, B. J., Enterprise
Maxwell, Alston, Tuscaloosa
May, W. L., Powhatan
McClure, H. A., Butler
McCorkle, F. W., Gadsden
McCullough, G. C., Birmingham
McDaniel, J. C., Birmingham
McDowell, J. F., Birmingham
McGahay, T. P., Birmingham
McKinnon, H. A., Birmingham
McLester, J. B., Birmingham
McQueen, J. P., Birmingham
McQuiddy, R. C., Birmingham
Meadows, J. A., Birmingham
Mehaffey, J. W., Birmingham
Meigs, J. H., Anniston
Meigs, S. C., Centerville
Merriam, G. C., Empire
Mertins, P. S., Jr., Montgomery
Meyer, Jerome, Birmingham
Miles, N. E., Birmingham
Miller, J. E., Huntsville
Miller, S. T., Yantley
Montgomery, J. Ethel, Bessemer
Moore, E. G., Tallassee
Moore, E. M., Centerville
Morgan, Ralph, Birmingham
Morland, H. C., Birmingham
Motley, J. P., Ensley
Motley, S. D., Birmingham
Murphree, C. L., Gadsden
Murphree, L. R., Decatur

N

Neely, M. G., Fairfield
Neville, C. W., Flat Creek
Newfield, S. U., Birmingham
Norton, E. M., Fairfield

O

O'Connell, Ed, Birmingham
Orton, A. E., Bessemer

P

Palmer, J. G., Opelika
Parker, P. H., Margaret
Parnell, L. C., Montevallo
Parris, Briggs, Geraldine
Parsons, J. L., Birmingham
Parsons, W. C., Birmingham
Partlow, R. C., Tuscaloosa
Patton, T. J., Oxford
Payne, T. J., Jasper
Payne, W. N., Fairfield
Penton, J. R., Montgomery
Peters, U. J. W., Birmingham
Pitts, E. B., Fairfield
Poellnitz, C. A., Greensboro
Pool, R. M., Fairfield
Posey, J. F., Anniston
Posey, L. C., Birmingham
Pow, J. R., Woodward
Prescott, W. E., Birmingham
Prescott, W. E., Jr., Birmingham

R

Ramey, D. R., Holt
Ransom, W. W., Birmingham
Ray, E. C., Birmingham
Rayfield, J. D., Jacksonville
Reaves, J. U., Mobile
Roan, A. M., Decatur
Robertson, B. O., Birmingham
Robertson, J. P., Birmingham
Robinson, E. B., Jr., Fairfield
Rodriguez, J. M., Louisville
Roscoe, G. T., Bessemer
Rosser, W. J., Birmingham
Rountree, W. B., Birmingham
Rowe, Mercer, Gadsden
Rudolph, C. M., Birmingham
Russell, R. O., Birmingham

S

Scofield, T. F., Birmingham
Scott, E. M., Birmingham
Scott, Edgar, Birmingham
Segrest, G. O., Mobile
Seibold, J. L., Birmingham
Sellers, H. G., Birmingham
Sellers, I. J., Birmingham
Sellers, N. E., Anniston
Sellers, W. D., Birmingham
Settle, R. J., Grove Hill
Sewell, J. F., Wetumpka
Shamblin, W. G., Tuscaloosa
Shannon, P. W., Birmingham
Shelamer, A. M., Athens
Sherer, R. J., Jasper
Shugerman, H. P., Birmingham
Simon, H. E., Birmingham
Simpson, J. W., Parrish
Simpson, J. W., Birmingham
Sims, A. G., Birmingham
Sloan, E. F., Columbiana
Smith, Greene, Ensley
Smith, J. L., Montgomery
Smith, H. R., Birmingham
Smith, J. C., Birmingham
Smith, J. P., Eutaw
Smith, J. Sam, Montgomery

Smith, T. L., Birmingham
Smith, W. H. Y., Montgomery
Snoddy, J. S., Russellville
Sorrell, L. E., Birmingham
Sowell, J. L., Jasper
Sparks, D. H., Birmingham
Spearman, G. K., Anniston
Speir, H. P., Greenville
Stabler, A. L., Birmingham
Stabler, E. V., Greenville
Stanley, W. A., Enterprise
Stewart, G. E., Fayette
Stewart, J. J., Birmingham
Stickley, C. S., Fairfield
Street, T. H., Alexander City
Stubbins, S. G., Birmingham
Sturkie, S. D., Clanton
Suggs, S. D., Montgomery
Sumner, I. C., Mobile

T

Terry, L. L., Sylacauga
Thomas, A. E., Montgomery
Thompson, Holland, Montgomery
Thorn, J. A., Vina
Thuss, C. J., Birmingham
Thuss, W. G., Birmingham
Timberlake, Landon, Birmingham
Towns, T. M., Oneonta
Townsend, J. M., Birmingham
Troje, O. R., Fairfield
Trucks, J. Frank, Birmingham
Tucker, E. W., Fairfield
Tucker, Lee, Cullman
Turlington, L. F., Birmingham
Turner, W. H., Dothan
Tyler, R. E., Birmingham
Tyler, Ruby E., Tuscaloosa

U

Underwood, F. R., Red Bay
Underwood, N. P., Russellville

V

Van Wezel, Norman, Montgomery
Vaughn, C. J., Cedar Bluff

W

Wainwright, S. P., Birmingham
Walker, A. M., Tuscaloosa
Walker, L. M., Jasper
Wallace, A. D., Plantersville
Wallace, S. H., Birmingham
Ward, W. R., Birmingham
Warrick, G. W., Birmingham
Warrick, W. D., Birmingham
Washam, J. M., Talladega
Watkins, J. H., Montgomery
Watkins, Miles A., Birmingham
Weatherford, Z. L., Red Bay
Welch, Oliver, Fairfield
White, M. S., Hamilton
Whiteside, H. B., Ohatchee
Whiteside, M. S., Cullman
Wickliffe, T. F., Jasper
Wiley, C. C., Birmingham
Wilkinson, H. B., Montgomery

Wilkinson, J. G., Cottonwood
Wilks, A. E., Powderly
Williams, James, Jacksonville
Williams, J. H., Fairfield
Williams, W. L., Birmingham

Williamson, J. S., Margaret
Wilson, C. H., Fairfield
Wilson, Frank C., Birmingham
Wilson, J. D., Birmingham
Wilson, L. E., Birmingham

Wilson, W. E., Russellville
Wood, J. W., Hanceville
Woodall, Paul, Birmingham
Woodson, L. G., Birmingham
Word, Buford, Birmingham

VISITORS

- Dr. R. L. Allen, Daisy, Tenn.
Dr. H. L. Anderson, T. C. I. Hospital.
Dr. Frank K. Boland, Atlanta.
Dr. J. W. Bruce, Louisville, Ky.
Dr. Z. Causey, Douglas, Ariz.
Dr. E. D. Colvin, Atlanta.
Dr. Chas. P. Corn, Greenville, S. C.
Dr. Frank J. Cox, Hillman Hospital, Birmingham.
Dr. W. T. Davis, Washington, D. C.
Dr. Charles H. Dolloff, Concord, N. H.
Dr. J. H. Durrett, U. S. Navy.
Dr. Max Emmert, Jr., Birmingham.
Dr. J. G. Galbraith, T. C. I., Fairfield.
Dr. Robert B. Greenblatt, Augusta, Ga.
Dr. R. R. Harris, Birmingham.
Dr. E. B. Hay, Hillman Hospital.
Dr. J. R. Jarvis, T. C. I., Fairfield.
Dr. Paul H. Jenkins, Tuscaloosa.
Dr. H. D. Johnson, Montgomery.
Dr. H. W. Kostmayer, New Orleans.
Dr. M. S. Lewis, Nashville, Tenn.
Dr. E. V. McCollum, Baltimore, Md.
Dr. C. F. McKinley, Atmore.
Dr. J. N. McLain, Pensacola, Fla.
Dr. G. A. O'Connell, Fort McClellan.
Dr. J. A. Redfern, Albany, Ga.
Dr. A. R. Rozer, Macon, Ga.
Dr. E. S. Sanderson, Augusta, Ga.
Dr. S. B. Thompson, T. C. I., Fairfield.
Dr. Janet Welch, Blantyre, Nyasaland, Africa.
Dr. O. T. West, Fairfield.
Dr. C. J. Westover, Anniston.
Dr. Claiborne Williamson, Nashville, Tenn.
Dr. A. W. Woods, Hillman Hospital.
Dr. J. B. Youmans, Nashville, Tenn.
Mrs. W. W. Alexander, Florence.
Mrs. W. E. Allen, Sweet Water.
Mrs. Neal L. Andrews, Birmingham.
Mrs. A. L. Atwood, Birmingham.
Mrs. L. G. Allbritton, Birmingham.
Mrs. Frank K. Boland, Atlanta.
Mrs. T. M. Boulware, Birmingham.
ham.
Mrs. A. C. Branyon, Sr., Fayette.
Mrs. W. H. Blake, Sheffield.
Mrs. J. G. Bedsole, Jackson.
Mrs. W. S. Chapman, Jackson.
Mrs. Dan Coyle, Birmingham.
Mrs. C. J. Colquitt, Birmingham.
Mrs. J. R. Chandler, Birmingham.
Mrs. J. T. Clack, Wadley.
Mrs. W. R. Carter, Repton.
Mrs. Sid W. Collier, Birmingham.
Mrs. Howell Cross, Gadsden.
Mrs. Jerome Chapman, Birmingham.
Mrs. Hugh Clark, Clayton.
Mrs. W. M. Cunningham, Jasper.
Mrs. N. T. Davie, Anniston.
Mrs. D. C. Donald, Birmingham.
Mrs. J. W. Day, Birmingham.
Mrs. M. T. Davidson, Birmingham.
Mrs. Charles P. Corn, Greenville, S. C.
Mrs. Max Emmert, Birmingham.
Mrs. O. R. Grimes, Gadsden.
Mrs. J. O. Finney, Gadsden.
Mrs. H. S. Gehrken, Birmingham.
Mrs. DeWitt Faucett, Gadsden.
Mrs. E. P. Green, Birmingham.
Mrs. R. J. Guest, Jr., Ft. Payne.
Mrs. R. Curtis Green, Birmingham.
Mrs. H. W. Frank, Gadsden.
Mrs. A. Huey Green, Birmingham.
Mrs. J. P. Gillespie, Gadsden.
Mrs. E. K. Hanby, Attalla.
Mrs. Edward Harris, Birmingham.
Mrs. Esau Harris, Bessemer.
Mrs. H. A. Harris, Birmingham.
Mrs. Rayford Hodges, Scottsboro.
Mrs. Joe Horn, Birmingham.
Mrs. J. Howell, Demopolis.
Mrs. Kellie Joseph, Birmingham.
Mrs. R. E. Johnson, Birmingham.
Mrs. S. A. Kahn, Birmingham.
Mrs. E. D. Lineberry, Birmingham.
Mrs. J. O. Lisenby, Atmore.
Mrs. W. L. May, Powhatan.
Mrs. Ralph McBurney, Tuscaloosa.
Mrs. H. A. McClure, Vernon.
Mrs. J. E. Miller, Huntsville.
Mrs. D. B. Monsky, Montgomery.
Mrs. Vance Nored, Thomasville.
Mrs. F. W. Pickell, Brewton.
Mrs. R. M. Pool, Fairfield.
Mrs. J. D. Rayfield, Jacksonville.
Mrs. J. A. Redfern, Albany, Ga.
Mrs. B. O. Robertson, Birmingham.
Mrs. J. M. Rodriguez, Louisville.
Mrs. Mac Rogers, Birmingham.
Mrs. G. J. Roscoe, Birmingham.
Mrs. Mercer Rowe, Gadsden.
Mrs. R. O. Russell, Birmingham.
Mrs. W. M. Salter, Anniston.
Mrs. R. J. Settle, Grove Hill.
Mrs. Elisha B. Smith, Birmingham.
Mrs. F. C. Smith, Bessemer.
Mrs. D. B. Snelling, Butler.
Mrs. D. H. Sparks, Birmingham.
Mrs. E. M. Thomas, Prattville.
Mrs. J. M. Townsend, Birmingham.
Mrs. Richard E. Tyler, Birmingham.
Mrs. Sam P. Wainwright, Birmingham.
Mrs. A. D. Wallace, Plantersville.
Mrs. J. H. Watkins, Montgomery.
Mrs. Oliver Welch, Fairfield.
Mrs. A. L. White, Thomasville.
Mrs. H. B. Whiteside, Ohatchee.
Mrs. T. F. Wickliffe, Jasper.
Mrs. J. H. Williams, Fairfield.
Mrs. G. W. Williamson, Birmingham.
Mrs. Charles Wilson, Birmingham.
Mrs. W. D. Wood, Camp Hill.
Mrs. Paul Woodall, Birmingham.
Mrs. G. G. Woodruff, Anniston.
Miss Lorene Abercrombie, South Highlands Infirmary.
Miss Annie Mae Acker, South Highlands Infirmary.
Miss Mary Cannon, South Highlands Infirmary.
Miss Marguerite Blalock, South Highlands Infirmary.
Miss Christine Boyette, Baptist Hospital.
Miss Lettie Champion, Birmingham.
Miss Dixie Collier, Baptist Hospital.
Miss Josephine Cunningham, Jasper.
Miss Opal Davis, Baptist Hospital.
Miss A. V. DeBow, Baptist Hospital.
Miss Linna H. Denny, Birmingham.
Mrs. Mary A. Dodd, Birmingham.
Mrs. Pearl C. Dunn, Birmingham.

Miss Anita Evans, South High-lands Infirmary.	Miss Josephine Sherrill, Bir-mingham.	D. C. Kelley, Jr., Montgomery.
Miss Alvin Gann, South High-lands Infirmary.	Mrs. Mary M. Walpole, Birming-ham.	Gordon King, University.
Miss Catherine Foster, South Highlands Infirmary.	Miss Mildred Taylor, South Highlands Infirmary.	Paul A. Lantrip, Evansville, Ind.
Miss Doris Harris, South High-lands Infirmary.	Miss Jean Walter, South High-lands Infirmary.	J. M. Lee, Leeds.
Miss Lavel Hassel, Cullman.	Miss Mildred Webb, Birming-ham.	E. J. Levie, Richmond, Va.
Miss Florence Herring, South Highlands Infirmary.	Miss Evelyn Worsham, South Highlands Infirmary.	J. A. Majors, Dallas, Texas.
Miss Flora Jackson, South High-lands Infirmary.	Miss Hazel Yeager, South High-lands Infirmary.	Mack McCollum, Montgomery.
Miss Mabel Johnson, South High-lands Infirmary.	M. W. Blakey, New Orleans, La.	Patrick McDonnell, Tuscaloosa.
Miss Nena Jurlow, South High-lands Infirmary.	Allen D. Boutwell, Birmingham.	Thomas F. McDonnell, Fairfield.
Mrs. Marie W. Knox, Birming-ham.	J. G. Box, Birmingham.	Thomas E. McKell, Fairfield.
Miss Jean Lauber, South High-lands Infirmary.	William O. Burnham, Birming-ham.	F. P. Meredith, Birmingham.
Miss Corinne Lipham, South Highlands Infirmary.	R. L. Calvert, Birmingham.	Tom Miller, Montgomery.
Miss Erva Lucas, South High-lands Infirmary.	J. M. Cameron, Faunsdale.	A. Sherrod Morrow, University.
Miss Lena Mae Mattison, South Highlands Infirmary.	W. C. Cantrell, Hamilton.	B. M. Morton, Birmingham.
Miss Virginia Lee Mayes, South Highlands Infirmary.	Q. A. B. Cornman, Marietta, Pa.	H. H. Payne, Jr., Birmingham.
Miss Elizabeth T. McDaniell, Bir-mingham.	Forest Cruse, Birmingham.	T. E. Powell, Birmingham.
Mrs. Kathleen M. McMurray, Birmingham.	W. G. Cumbie, University.	Harlan Prater, Jr., Birmingham.
Miss Essie Owens, South High-lands Infirmary.	Walter D. Davis, Montgomery.	H. C. Rasmussen, Birmingham.
Miss Sarah Perkins, South High-lands Infirmary.	Chase Delony, Birmingham.	James C. Ray, Sulligent.
Miss Margaret Ponder, South Highlands Infirmary.	E. H. Edwards, Jr., Birmingham.	W. A. Roebuck, Birmingham.
Miss Mabel Ruffin, Birmingham.	Curtis Friday, Weogufka.	Joseph L. Rubel, Columbus, Miss.
Miss Sue Scott, South Highlands Infirmary.	George W. Griffin, Birmingham.	James R. Shell, University.
	Leon E. Harris, University.	R. C. Sibley, Birmingham.
	W. M. Harris, Jr., Tuscaloosa.	L. C. Sims, Birmingham.
	J. V. Henderson, Birmingham.	John M. Slaughter, University.
	Ray G. Hicks, Birmingham.	Richard H. Smoot, Fairfield.
	H. B. Hinton, Montgomery.	William T. Snoddy, Birmingham.
	F. B. Hodnette, Atmore.	Harold Spitze, Atlanta.
	John Hope, Jr., Fairfield.	M. M. Steinberg, Birmingham.
	G. J. Hulcher, Richmond, Va.	D. L. Stewart, Birmingham.
	Nial Elting Jackson, Florence.	Arabian N. Taylor, Tuscaloosa.
	R. E. Johnson, Birmingham.	Hal Taylor, Birmingham.
	R. G. Johnson, Newgulf, Texas.	C. T. Thompson, Wilson Dam.
	T. F. James, Marion.	W. D. Thompson, Gadsden.
		H. Osborne Walton, Philadelphia, Pa.
		Thomas R. Wear, University.
		Bill White, Jacksonville, Fla.
		R. L. Wilkinson, Tuscaloosa.
		J. M. Witt, Birmingham.

SUMMARY OF ANNUAL ATTENDANCE

Year	Life Counsellors	Active Counsellors	Delegates	Members	Visitors	Total	Place
1911	14	53	66	139	19	291	Montgomery
1912	16	63	92	348	40	559	Birmingham
1913	7	49	83	124	17	280	Mobile
1914	16	67	85	226	20	414	Montgomery
1915	32	74	108	429	49	692	Birmingham
1916	19	66	92	106	41	306	Mobile
1917	18	64	96	199	32	409	Montgomery
1918	27	63	80	257	44	471	Birmingham
1919	22	43	87	94	102	348	Mobile
1920	16	61	59	85	51	272	Anniston
1921	26	65	73	183	58	405	Montgomery
1922	26	72	76	314	68	556	Birmingham
1923	14	48	66	106	50	284	Mobile
1924	29	70	84	230	79	492	Montgomery
1925	27	78	97	328	113	643	Birmingham

Year	Life Counsellors	Active Counsellors	Delegates	Members	Visitors	Total	Place
1926	33	74	105	194	131	537	Mobile
1927	36	85	104	252	87	564	Montgomery
1928	33	77	108	507	106	831	Birmingham
1929	19	60	102	176	109	466	Mobile
1930	32	83	106	286	102	609	Montgomery
1931	26	80	116	410	158	790	Birmingham
1932	19	60	101	158	133	471	Mobile
1933	21	74	103	264	85	547	Montgomery
1934	26	75	97	404	53	655	Birmingham
1935	15	59	91	180	83	428	Mobile
1936	23	79	95	265	68	530	Montgomery
1937	25	80	96	396	81	678	Birmingham
1938	18	65	78	157	63	381	Mobile
1939	29	79	96	326	84	614	Montgomery
1940	29	77	105	401	229	841	Birmingham

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF LABORATORIES

Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

APRIL 1940

Examinations for diphtheria bacilli and Vincent's	572
Agglutination tests (typhoid, Brill's, undulant fever, etc.)	577
Typhoid cultures (blood, feces and urine)	715
Examinations for malaria	1,665
Examinations for intestinal parasites	3,688
Serologic tests for syphilis (blood and spinal fluid)	24,616
Darkfield examinations	59
Examinations for gonococci	1,942
Examinations for tubercle bacilli	2,056
Examinations for Negri bodies (microscopic)	75
Water examinations (bacteriologic)	836
Milk examinations	2,392
Pneumococcus typing	71
Miscellaneous	991
	40,255

THE EVALUATION OF SERODIAGNOSTIC TESTS FOR SYPHILIS¹

SUMMARY OF RESULTS OF VARIOUS SEROLOGISTS, 1935

In previous articles,² reference has been made to the origin and methods of conduct of the comparative tests designed to evaluate the serodiagnostic tests for syphilis in the United States. In this paper it is proposed to give the statistical results of the various procedures with a view to indicating exactly how the different technics and serologists stood at the conclusion of the series.

1. The Evaluation of Serodiagnostic Tests for Syphilis in the United States, Cumming, H. S., et al., J. A. M. A. 1935, 104: 2083.
2. The Evaluation of Serodiagnostic Tests for Syphilis, Damon, S. R., J. M. A. Alabama, April and May 1940.

TABLE 1

Sensitivity of tests based on their ability to detect syphilis in blood specimens from primary, secondary and late cases of syphilis

SEROLOGISTS AND TESTS	Untreated primary syphilis (43 cases)		Untreated secondary syphilis (65 cases)		Late syphilis with varying treatments (307 cases)		Total cases of syphilis (415 cases)		
	Specimens examined	Percentage of positive reports	Specimens examined	Percentage of positive reports	Specimens examined	Percentage of positive reports	Specimens examined	Positive reports	Percentage of positive reports
Eagle	43	72.1	65	100.0	307	82.4	415	349	84.1
Hinton	42	81.0	64	100.0	303	84.5	409	354	86.6
Kahn-standard	43	76.7	65	100.0	307	76.9	415	334	80.5
Johns	43	58.1	63	98.4	307	64.5	413	285	69.0
Kline-diagnostic	43	74.4	65	100.0	305	71.5	413	315	76.3
Lufkin & Rytz	43	72.1	65	98.5	304	83.6	412	349	84.7
Weiss	41	70.7	63	98.4	298	63.1	402	279	69.4
Precipitation tests, exclusion									
Kurtz-Kahn presumptive	41	82.9	65	100.0	305	84.3	411	356	86.6
Rein-Kline exclusion	41	80.5	63	100.0	306	83.0	410	350	85.4
Complement-fixation									
Brem	41	53.7	64	100.0	305	66.6	410	289	70.5
Kolmer	41	65.9	65	100.0	305	72.1	411	312	75.9
Ruediger	40	82.5	65	100.0	302	86.4	407	359	88.2
Williams	43	69.8	65	100.0	307	58.0	415	273	65.8

TABLE 2

Specificity of tests based on their ability to exclude syphilis in blood specimens from normal presumably non-syphilitic individuals

Serologists and tests		Normal presumably non-syphilitic individuals (152 cases)		
Precipitation tests, diagnostic	Total specimens examined	False positive reports	Percentage of false positive reports	Percentage of negative reports
Eagle	151	3	2.0	98.0
Hinton	150	1	0.7	99.3
Kahn-standard	149	0	0	100.0
Johns	151	5	3.3	96.7
Kline-diagnostic	146	0	0	100.0
Lufkin & Rytz	151	2	1.3	98.7
Weiss	147	1	0.7	99.3
Precipitation tests, exclusion				
Kurtz-Kahn presumptive	152	5	3.3	96.7
Rein-Kline exclusion	151	1	0.7	99.3
Complement fixation				
Brem	147	0	0	100.0
Kolmer	150	0	0	100.0
Ruediger	148	1	0.7	99.3
Williams	151	0	0	100.0

TABLE 3

Sensitivity of blood tests based on ability to detect syphilis contrasted with *specificity* of blood tests based on ability to exclude syphilis

Serologists and tests	Percentage of positive reports in 415 cases of syphilis	Percentage of negative reports in 152 normal individuals
Precipitation tests, diagnostic		
Eagle	84.1	98.0
Hinton	86.6	99.3
Kahn-standard	80.5	100.0
Johns	69.0	96.7
Kline-diagnostic	76.3	100.0
Lufkin & Rytz	84.7	98.7
Weiss	69.4	99.3
Precipitation tests, exclusion—		
Kurtz-Kahn presumptive	86.6	96.7
Rein-Kline exclusion	85.4	99.3
Complement-fixation—		
Brem	70.5	1000
Kolmer	759	1000
Ruediger	882	993
Williams	658	1000

From Table 1 it appears that the diagnostic precipitation tests are, on the whole, more sensitive than the complement-fixation tests in detecting syphilis in untreated secondary syphilis; that there is little difference between either of these procedures in detecting

syphilis in treated cases, although the precipitation tests are in general somewhat more sensitive.

From Table 2 it is evident that there is little difference in the diagnostic precipitation tests and complement-fixation in the matter of specificity or ability to exclude syphilis in sera from normal presumably non-syphilitic individuals.

From the above it would seem that the conclusion was justified that efficient precipitation or complement fixation tests were of equal value to the physician in the detection or exclusion of syphilis as applied to blood specimens.

(To be continued)

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

DIPHTHERIA AND ITS RELATION TO PRIOR IMMUNIZATION

For the past three years, whenever a case of diphtheria has been reported to the State Health Department, a questionnaire has been sent to the county health department requesting information as to the history of the case in regard to previous immunization. The results of the 1937 and 1938 surveys have been published in this Journal.^{1, 2}

It is now possible to add the information gained regarding the 1939 cases. The final measurement of the efficiency of any immunizing agent is the actual incidence of cases in the inoculated group so these queries have been with a definite purpose. Nine hundred and twenty-two (922) cases of diphtheria were reported during 1939 and replies were received on eight hundred and eighteen (818) of these. Analysis of these replies revealed:

- (1) One hundred and ninety-eight (198) or 24.2% gave a history of some form of immunization. Of these, sixteen (16) specified toxin-antitoxin or plain toxoid while the balance are presumed to have been alum-precipitated toxoid.
- (2) Thirteen (13) of these reported toxoid within one month prior to the onset of diph-

1. Gill, D. G.: An Analysis of 830 Cases of Diphtheria Occurring in Alabama During 1937, J. M. A. Alabama 7: 384-385 (April) 1938.

2. Gill, D. G.: Immunization Record of Diphtheria Cases in Alabama, 1938, J. M. A. Alabama 8: 362 (April) 1939.

theria so if these are excluded it leaves one hundred and eighty-five (185) or 22.6% which were supposedly immunized.

(3) Forty-seven (47) of the cases were less than one year old and none of them had been given toxoid.

(4) Sixty-six (66) of these eight hundred and eighteen (818) cases died or a case fatality of 8.07%. Five of the deaths occurred in the one hundred and eighty-five (185) immunized cases or a case fatality of 2.7% as compared to sixty-one (61) deaths or 9.8% in the six hundred and thirty-three (633) non-immunized cases.

These results are very similar to the findings of 1937 and 1938. During those two years 18.9% and 19.8% had been given an immunizing agent and the case fatality rates in these groups were 2.0% and 3.7%. These figures reveal that even if protection was not complete the chance of a fatal outcome was much less in the child given toxoid.

That approximately twenty per cent of the cases of diphtheria were occurring in children supposedly protected, however, indicated that such protection was only relative and it was one of the main reasons for changing the recommended dosage of alum-precipitated toxoid. Two doses have been shown elsewhere to be a superior measure and this has been adopted as standard in Alabama. Similarly to care for any decline in protection a reinforcing dose at school age has been recommended. It is hoped these measures will materially lower the number of failures to protect.

BUREAU OF HYGIENE AND NURSING

B. F. Austin, M. D., Director

A COMPARATIVE STUDY OF THE TEETH OF WHITE AND NEGRO SCHOOL CHILDREN

A recent dental examination of white and Negro school children, conducted by the several county health departments of the East Alabama Health District, brings out many interesting facts concerning the difference between the white and Negro school children in the number of dental defects found.

The examination program was conducted in six counties in 111 white schools examining 15,013 pupils and in three counties in 53 Negro schools examining 4,218 pupils. The examinations were made by local den-

tists (23 participating) and by the dental personnel of the East Alabama Health District. No specific number of defects or fillings were checked on individual children. Records were marked either "Yes" or "No" relating to caries in permanent teeth, caries in deciduous teeth, sordes, roots and abscesses, extensive malocclusion and fillings present. Due to the fact that nearly all of the children have unclean teeth, sordes was not checked as a defect, unless there was so much tartar or debris present that actual immediate damage was being done.

In tabulating the data from the examination, those children designated as O. K. are the ones who did not have caries in their permanent or deciduous teeth, sordes, roots and abscesses, extensive malocclusion or missing permanent teeth. Those children with fillings present were not counted as defective unless there were also uncorrected defects in the same mouth.

In this article the figures are not based on number of defects or fillings, but upon the number of children with each itemized defect; for instance, the number of cavities in a child's permanent teeth may vary from one cavity in one child to twelve in another with both children receiving the same designation in the tabulations.

A first comparison of the two groups reveals that although there is a decided difference between the races in the younger age groups, ultimately in the older ages there is very little difference. Regardless of the fact that as a rule the Negro mother gives less attention to prenatal diet and care than the white mother, the Negro child by some quirk of genetic influence is born with a far superior set of teeth to the white child. This genetic influence is carried into the second set or permanent teeth, also, despite the fact that the average Negro preschool and school child does not receive what is now thought of as an adequate diet. Though born with a far superior set of teeth, it does not take long for the lack of adequate nutrition and lack of proper mouth hygiene to bring about a carious condition in the mouth nearly as bad as found in the white children.

A detailed comparison (Table 1) shows the difference between the number of children who were found to have no dental defects. It is noted that in the six-year old group only 19.6% of the white children were free of dental defects while 44.7% of the

Negro 6 year olds were O. K. Both groups get progressively worse during the 7th, 8th and 9th years as the deciduous teeth become more carious. During the 10th and 11th years an improvement is seen as the deciduous teeth are exfoliated and replaced by the new permanent teeth. At the 12th year we find the white children are 26.2% O. K. while the 12 year old Negro children have 50.6% good teeth. Again begins a decline in percentage of good teeth as the lately erupted permanent teeth begin to show the effect of caries. The 13 and 14-year-old white children are only 24% O. K. while the same age Negro group is 42% O. K. After the 14th year a comparison of the two groups is closer together. The white group, because of increased restorative work, remains at 20.1% and 20.7% O. K. during the 15th and 16th years while the Negro declines to 34.4% at 15 years and 27.2% for the 16th year.

TABLE 1

Age by years	6	7	8	9	10	11	12	13	14	15	16 and over
Per cent of white children who were O. K.	19.6	16.4	13.6	14.2	19.7	21.5	26.2	24.0	24.0	20.1	20.7
Per cent of Negro children who were O. K.	44.7	33.1	37.1	42.3	40.1	51.3	50.6	42.9	42.5	34.4	27.2

A second comparison (Table 2) going even more into detail shows that the per cent of white children with cavities in their deciduous (baby) teeth runs considerably higher than Negro children. At the age of six years, 76.3% of the white children have cavities in their deciduous teeth while only 50.5% of the Negro children of the same age are similarly affected. The per cent of Negro children with carious deciduous teeth reaches its height at the age of seven years with 58.9% as compared with 73.7% for the white children. It is noted that since the deciduous teeth are exfoliated by the twelfth year the percentage of difference remains greater in the deciduous teeth than it does in the permanent teeth (Table 3) because the effect of neglect does not have time to offset the superior structure provided by the genetic influence.

A third comparison (Table 3) clearly shows how the Negroes with their inherited better teeth neglect them, and the steady increase of defective permanent teeth from

TABLE 2

Age by years	6	7	8	9	10	11	12	13	14	15	16 and over
Per cent of white children with cavities in their deciduous teeth	76.3	73.7	73.8	67.6	47.7	30.4	15.4	6.4	2.7	1.7	1.5
Per cent of Negro children with cavities in their deciduous teeth	50.5	58.9	51.3	36.0	28.2	15.5	7.0	4.8	2.9	1.4	1.7

10.5% in the six-year group to 69.1% in the 16th year and over group nearly equals the 71.2% of the same group of white children, who rapidly jump from a 21.0% defective at 6 years to 65.1% defective at the eleventh year and then practically remain the same as increased corrective treatment begins to have its effect.

TABLE 3

Age by years	6	7	8	9	10	11	12	13	14	15	16 and over
Per cent of white children with cavities in their permanent teeth	21.0	40.4	54.6	60.4	60.4	65.1	64.4	68.3	68.4	71.3	71.2
Per cent of Negro children with cavities in their permanent teeth	10.5	24.3	33.1	34.1	31.1	38.1	42.5	48.2	54.2	60.5	69.1

Further study of the two groups revealed that, despite a kindly genetic influence, far more of the Negro children had Hutchinson's teeth due to congenital syphilis and many more of them showed the effects of improper diet by having "mulberry" molars, probably due to early rickets or other nutritional disturbances. It was found that the Negro children do not have whiter teeth than the white children. This generally accepted fallacy may be attributed to the difference in the color of the skin which tends to make the Negroes' teeth appear whiter.

SUMMARY

1. From some cause, probably genetic influence, and in spite of improper dietary factors, Negro children possess a far superior set of teeth to white children in the younger age groups.

2. Due to lack of proper hygiene, improper nutrition and an absolute lack of reparative work, a steady decline in number of Negro children with good teeth begins, and, by the time the sixteenth year is reached, the Negro is left with only slightly better teeth than the same age white children.

3. In the group examined in the East Alabama Health District far more Negro children were found to have Hutchinson's teeth due to congenital syphilis, and more "mulberry molars" due to nutritional disturbances, than the white children.

S. H. M.

BUREAU OF VITAL STATISTICS

Leonard V. Phelps, S. B. in Public Health,
Director

MEDICAL CERTIFICATION OF CAUSE OF DEATH

The medical certification of the cause of death on the certificate forms is called for under items number 17 and 18. Since the revision of the certificate form at the beginning of the present year, it has been observed that in the event death occurred from violence or from accidental causes, item number 18 was often left blank. Information called for under item 18 should be considered a part of the medical certification just as much as that called for under item number 17. It serves to amplify the statement of cause of death given under item number 17 when death was due to violence or accidental causes.

Completion of item number 18 enables the State Department of Health to identify deaths in this group and to follow them up for further information. Few physicians realize that one out of every ten deaths recorded is due to violence or accidental causes. The success of the department in its effort to reduce deaths from these causes is dependent upon the willingness of the physician to fill out not only item number 17 but item number 18 as well.

Care should be taken to state whether death was the result of an accident or from suicide or homicide. The words "Accident," "Homicide," or "Suicide" should be written out in the space provided. The date of occurrence should be stated, giving the month, day and year. If the exact date cannot be

17.

MEDICAL CERTIFICATION

Date of death
(Month by name) (Day) 19 (Year)

Duration of Condition
Yrs | Mo | Da

Immediate cause of death

Due to

Due to

Other important conditions not causally related to immediate cause

Name of operation

Date of operation

Major findings of operation:

of autopsy

Attention Physician
Please underline the primary cause to which you believe this death should be charged

If woman, indicate pregnancy within 3 months of death (Yes.....or No.....)

I hereby certify that I attended the deceased from
....., 19....., to....., 19.....;
that I last saw h..... alive on....., 19.....;
and that death occurred at..... M. on the date stated above from causes given.
Attendant's own signature....., M. D.
....., Coroner

Date signed....., 19.....

Address

18. VIOLENCE: If death was due to external causes, fill in following: Accident, suicide or homicide (specify)

Date of occurrence
(Month by name) (Day) (Year)

Where did injury occur?.....
(Name of State)

(City or town) (County) (Beat No.)

Describe how injury occurred.....

stated, an approximate date should be given. It is extremely important that the place of injury be supplied, giving each of the following: name of state, city or town, county and, if in Alabama, the beat number. A brief statement as to how the injury occurred should be furnished. Should additional space be desired, the back of the certificate may be used.

In the future, therefore, will you take care not only to fill out item number 17 of the medical certification but item number 18 as

well. The department must have your full cooperation if it is to reduce the unnecessarily high ratio of one in ten deaths due to violence or accidental causes.

BUREAU OF SANITATION

G. H. Hazlehurst, C. E., M. C. E., Director

IMPORTANCE OF PASTEURIZATION

Can raw milk be guaranteed as safe?
A. W. Fuchs,¹ Senior Sanitary Engineer of the U. S. Public Health Service, gave an answer to this question in a recent address before the Philadelphia College of Physicians.

“The answer,” he said, “is, first, that even frequent sanitary inspections of dairies will not insure that infected bottles have been properly sterilized; that a safe water supply is used for cleansing milk utensils; and, that milk containers have not been contaminated by flies. Also frequent health examinations of herds and of milk handlers sometimes fail to disclose disease or carrier conditions that may be present.”

Rosenau,² an authority on nutrition, has this to say: “Pasteurization is a preventive measure of public health importance. The heat of pasteurization does not alter the taste, appearance or digestibility of milk unfavorably, and does not appreciably diminish its food value except that there may be a diminution of its antiscorbutic property, which in any case should be offset by the use of orange juice or tomato juice. In fact, pasteurization tends to make the curd softer and in this way perhaps easier to digest. It is the best insurance both for the industry and the consumer and the simplest and cheapest, least objectionable and most trustworthy method of rendering infected milk safe. Next to water purification, pasteurization is the most important single preventive measure in the field of sanitation.”

The following table shows the cities in Alabama in which pasteurized milk is available, together with the approximate percentage of milk which is pasteurized.

1. Fuchs, A. W.: Milk and its Relation to Disease. Address delivered before the Philadelphia College of Surgeons, February 5, 1940.
2. Rosenau, M. J.: Preventive Medicine and Hygiene, ed. 6, New York, D. Appleton-Century Company, Inc., 1935, p. 790.

City	Per Cent of Market Milk Which Is Pasteurized
Alexander City	69
Anniston	59
Athens	36
Auburn	35
Birmingham	51
Cullman	63
Decatur	53
Dothan	44
Florence	71
Gadsden	64
Huntsville	77
Mobile	30
Montgomery	30
Opelika	66
Selma	11
Tuscaloosa	86
Tuskegee	65
Sheffield-Tuscumbia	73

Authorities agree that proper pasteurization will devitalize all milk-borne pathogens. The following thermal death points of various pathogens in milk are given by Fuchs: B. tuberculosis at 155°F. in 1 minute and 142°F. in 10 minutes; B. typhosus at 142°F. in 7 minutes; B. diphtheriae at 140°F. in 10 minutes. All of 200 strains of hemolytic streptococci from septic sore throat and scarlet fever were killed at 140°F. in 30 minutes, most of them at 136°F. or less. Br. melitensis and Br. abortus strains of human, bovine and swine origin were killed at 140°F. in 10 minutes, and B. dysenteriae at 140°F. within 10 minutes.

Pasteurization is defined in the following excerpt from the 1939 Alabama State Board of Health Milk Regulations: The terms “pasteurization,” “pasteurized” and similar terms shall be taken to refer to the process of heating every particle of milk or milk products to at least 143°F. and holding at such temperature for at least 30 minutes or to at least 160°F. and holding at such temperature for at least 15 seconds, in approved and properly operated equipment.

TESTS FOR PASTEURIZATION

Until a few years ago there was no satisfactory laboratory test for determining whether milk had been pasteurized, nor was there a satisfactory test to determine whether pasteurization had been done properly. Checks of the recording thermometer

charts, pasteurization equipment and methods at the plant had to be relied upon. Such checks were sometimes inadequate to detect deliberate fraud or many accidental faults in pasteurization. Kay and Graham³ developed the phosphatase test. By this test it is not only possible to determine whether milk has been pasteurized but also to determine to a very close degree of accuracy how completely pasteurization has been done.

All raw milk includes in its complex composition a number of enzymes, or ferments, the function of which appears to be to accelerate certain changes in the chemical composition of the components of the milk which are regarded as natural or normal occurrences. These enzymes include peroxidase, catalase, amylase and phosphatase. The latter is more uniformly present in raw milk in constant amount than any of the other enzymes named. Phosphatase is destroyed or inactivated by pasteurization. This, together with the fact that the amount of phosphatase in milk can readily be measured, makes this test a practical one for the completeness of pasteurization.

The test makes application of the ability of phosphatase to hydrolyze di-sodium-phenol-phosphate with the liberation of phenol, which is estimated colorimetrically with an indicator solution. Raw milk when subjected to the phosphatase test has a sea blue color, and completely pasteurized milk is practically colorless. The presence of any blue color is a positive indication of underpasteurized milk, the addition of raw milk, or other equal deficiencies.

STUDY OF PASTEURIZATION PLANTS IN ALABAMA

During the spring of 1939 a study was made of the pasteurization plants in 17 cities in Alabama. Thirty-four plants were included in this study. Checks were made of the thermometers, valves, equipment, holding time, methods, etc., and the phosphatase test was run as a laboratory check. Scharer's⁴ modification of Kay and Graham's test was used. Fifty-three samples were run. Fifteen or 28.3% of these samples were found to be underpasteurized. The degree of underpasteurization ranged from very slight to practically no pasteurization at all.

FINDINGS OF STUDY IN ALABAMA

In a few cases where underpasteurized milk was found, the cause was readily deter-

mined. However, in most cases, it was impossible to attribute the cause to any one definite defect. Any one of the following defects that were found may cause underpasteurization: Broken recording thermometer; broken air space thermometer; recording thermometers that are out of adjustment; indicating thermometer registering too high; recording thermometer clocks not keeping accurate time; stop not provided on inlet valves; leaky inlet or outlet valve; vats filled too full to use the air space heater; air space heater clogged with boiler scale; pasteurized milk run through raw milk equipment without the complete removal of all raw milk before the pasteurized milk came in contact with the equipment. These and many other items that could be named may cause underpasteurization.

The fact that these defects occurred mainly in plants that were poorly equipped or were operated by untrained persons points out very definitely the need for trained operators in all pasteurization plants. As previously mentioned, next to water purification, pasteurization is the most important single preventive measure in the field of sanitation.

C. E. F.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA
1940

	March	April	Estimated Expectancy April
Typhoid	9	14	18
Typhus	10	10	12
Malaria	81	185	113
Smallpox	2	8	8
Measles	804	490	788
Scarlet fever	81	54	41
Whooping cough	103	94	205
Diphtheria	47	24	46
Influenza	1863	492	1301
Mumps	100	139	199
Poliomyelitis	1	2	2
Encephalitis	1	0	3
Chickenpox	155	175	196
Tetanus	0	0	5
Tuberculosis	226	206	308
Pellagra	20	18	36
Meningitis	10	11	14
Pneumonia	894	519	533
Ophthalmia neonatorum	2	1	1
Trachoma	0	3	0
Tularemia	0	1	2
Undulant fever	6	8	1
Dengue	0	0	0
Amebic dysentery	0	1	0
Cancer	32	25	0
Rabies—Human cases	0	0	0
Positive animal heads	19	24	...

*As reported by physicians and including deaths not reported as cases.
The Estimated Expectancy represents the median incidence of the past nine years.

3. Kay and Graham: J. Dairy Res. 6: 191. 1935.
4. Scharer, Harry: J. Dairy Sc. 21: 1, 1938.

INDEX

THE JOURNAL OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Volume 9

July 1939-June 1940

EXPLANATORY NOTES

Arrangement of Index

The index is arranged under the following headings:

- I. Authors
- II. Subjects
- III. Editorials
- IV. Transactions of the Association
- V. The Association Forum
- VI. Committee Contributions
- VII. Department of Public Health
- VIII. Book Abstracts and Reviews

I. AUTHORS

A

- Abbott, C. E.—The feeding schedule during the first year 180.
- Abele, C. A., and Damon, S. R.—An outbreak of gastro-enteritis caused by milk-borne staphylococci producing an enterotoxin 1.
- Alexander, W. W.—Community health, as interpreted by a private practitioner 377.
- Alison, J. F.—Dental caries in children 420.

B

- Baker, J. N.—The philosophy of sound public health organization 416.
- Baumhauer, J. H.—Acute gastro-intestinal intoxication, management in infancy and childhood 148.
- Beck, J. E., and Segrest, G. O.—Hyperinsulinism cured by removal of an islet cell adenoma, report of case 40.
- Bliss, A. R., Jr.—A plea for the use of U. S. P., N. F., and N. N. R. drugs 217.
- Block, W. H.—Psychosis precipitated by sulfanilamide 339.
- Bonner, J. Miller—Dr. James Marion Sims 336.
- Brooks, Clyde—A new technique for the blood sedimentation test 72.
- Bryan, G. S.—Reducing the pneumonia death rate 69.

C

- Caldwell, E. V.—The health worker, how the layman looks upon him 374.
- Callaway, R. R.—Infections of the kidney 343.
- Chenault, F. L.—Sepsis, the doctor's number one problem 213.
- Clements, Ralph M., and Searcy, Harvey B.—The use of vitamins in eye, ear, nose and throat practice 109.

D

- Dabney, M. Y.—James Marion Sims, father of modern gynecology 333.
- Davidson, Marion T.—The prevention and treatment of allergy 4.
- Davie, M. S.—American medicine 204.
- DeWitt, E. N.—Intra-ocular new growths 250.
- Donald, J. M.—Disruption of postoperative abdominal wounds 245.
- Douglas, G. F.—Gynecology and endocrines, day of J. Marion Sims and now 303.
- Drennen, Earle—Carcinoma of the colon and rectum 209.

F

- Finney, J. O., and Morgan, J. O.—Acute purulent pericarditis, report of case 81.
- Foster, Richard C.—The University of Alabama and medical education 17.

G

- Gaines, Toulmin—Alabama's heritage from the Medical College of Alabama, the medical department of the University of Alabama, Mobile, from 1859 to 1920, 8.
- Gaston, C. D., and Williams, H. B.—The enema, its uses and abuses 143.
- Gill, D. G., and Smith, Murray—Atabrine as a malarial prophylactic agent, experiments in Alabama 151.
- Givhan, E. G., Jr.—The dietary management of diabetes 201.
- Graves, Stuart—The need for a four-year medical school in Alabama 13.
- Greenblatt, R. B., and Torpin, R.—The evaluation of the various gonadotropins 409.
- Gunter, W. A., and Lafferty, Charles—Histoplasmosis of Darling, report of case 337.

H

- Harper, R. E.—Tuberculosis control activities in a North Alabama county 177.
- Harper, W. W.—Pyelitis in infancy 216.

K

- Kennedy, Hughes, and Smith, J. S.—Sulfapyridine, its use in pneumococcal infections 73.
- Kennedy, W. C.—Intestinal obstruction 415.
- Keyton, John A.—Treatment of chronic dacryocystitis, a new technic 342.

L

- Lafferty, C. R.—Syphilis in private practice, the differential diagnosis of venereal diseases 50.

M

- Mason, J. M.—Empyema thoracis, review of progress in treatment 116.
 McCollum, E. V.—Some contributions of nutritional research to clinical medicine 365.
 McLester, J. B.—Pellagra and its modern treatment, with special emphasis on the borderline states 169.
 McLester, J. S.—Postgraduate medical instruction in Alabama 18.
 Monsky, D. B.—Mediastinal tumors in children 37.

N

- Nodine, E. R.—The hard of hearing patient, recent advances in treatment 299.

P

- Partlow, W. D.—Habitual use of alcohol in Alabama 145.
 Legislation providing for a four-year medical school 18.
 Payne, T. J.—Blood transfusions, indications, preparation, administration 222.
 Peake, J. D.—Carcinoma of the cervix 300.
 Posey, L. C.—A brief review of the pathology of the endometrium 267.

R

- Reaves, J. U.—History of urology in Alabama 258.
 Roe, L. W.—A study of nephritis 172.

S

- Shannon, P. W.—Chronic back pain 53.
 Simpson, H. M.—Importance of early x-ray diagnosis in gastro-intestinal disease 175.
 Skinner, Marcus—Peptic ulcer, modern conception of surgical treatment 113.
 Sydenstricker, V. P.—Changing concepts of deficiency diseases 105.

T

- Talley, D. F.—History of the founding of the Birmingham Medical College 11.
 Taylor, Adrian—Clinical aspects of thyroid disease 141.
 Turlington, L. F.—Abnormal uterine bleeding 296.

W

- Walsh, Groesbeck, and Pool, Robert M.—Disease and the Negro, operations for perineal repair 340.
 Watson, Jerre—Obstetrics in relation to maternal morbidity 120.
 Weil, C. K., and Climo, H. J.—Status asthmaticus, specific chemotherapy in treatment, preliminary report 370.
 Weil, C. K., and Smith, W. H. Y.—Syphilis in private practice, case reports illustrating problems in management 43.
 Weiss, M. M.—Treatment of coronary artery sclerosis 293.

II. SUBJECTS

A

- Abnormal uterine bleeding (Turlington) 296.
 Alcohol, habitual use in Alabama (Partlow) 145.
 Allergy, prevention and treatment (Davidson) 4.
 American medicine (Davie) 204.
 Atabrine as a malarial prophylactic agent, experiments in Alabama (Gill and Smith) 151.

B

- Back pain, chronic (Shannon) 53.
 Birmingham Medical College, history of founding (Talley) 11.
 Blood sedimentation test, new technique (Brooks) 72.
 Blood transfusions, indications, preparation, administration (Payne) 222.

C

- Carcinoma of the cervix (Peake) 300.
 colon and rectum (Drennen) 209.
 Community health, as interpreted by a private practitioner (Alexander) 377.
 Coronary artery sclerosis, treatment (Weiss) 293.

D

- Dacryocystitis, chronic, treatment, new technic (Keyton) 342.
 Deficiency diseases, changing concepts (Sydenstricker) 105.
 Dental caries in children (Alison) 420.
 Diabetes, dietary management (Givhan) 201.
 Disease and the Negro, operations for perineal repair (Walsh and Pool) 340.
 Disruption of postoperative abdominal wounds (Donald) 245.

E

- Empyema thoracis, review of progress in treatment (Mason) 116.
 Enema, its uses and abuses (Gaston and Williams) 143.

F

- First year feeding schedule (Abbott) 180.
 Four-year medical school in Alabama, need (Graves) 13.
 Four-year medical school, legislation providing (Partlow) 18.

G

- Gastro-enteritis caused by milk-borne staphylococci producing an enterotoxin, outbreak (Abele and Damon) 1.
 Gastro-intestinal disease, early x-ray diagnosis, importance (Simpson) 175.
 Gastro-intestinal intoxication, acute, management in infancy and childhood (Baumhauer) 148.
 Gonadotropins, their evaluation (Greenblatt and Torpin) 409.
 Gynecology and endocrines, day of J. Marion Sims and now (Douglas) 303.

H

- Hard of hearing patient, recent advances in treatment (Nodine) 299.
Health worker, how the layman looks upon him (Caldwell) 374.
Histoplasmosis of Darling, report of case (Gunter and Lafferty) 337.
Hyperinsulinism cured by removal of an islet cell adenoma, report of case (Beck and Segrest) 40.

I

- Infections of the kidney (Callaway) 343.
Intestinal obstruction (Kennedy) 415.
Intra-ocular new growths (DeWitt) 250.

M

- Medical College of Alabama, Alabama's heritage, the medical department of the University of Alabama, Mobile, from 1859 to 1920 (Gaines) 8.
Medical education, University of Alabama (Foster) 17.
Medical instruction in Alabama, postgraduate (McLester) 18.

N

- Nephritis, a study of (Roe) 172.
Nutritional research, some contributions to clinical medicine (McCollum) 365.

O

- Obstetrics in relation to maternal morbidity (Watson) 120.

P

- Pathology of endometrium, brief review (Posey) 267.
Pellagra and its modern treatment, special emphasis on the borderline states (McLester) 169.
Peptic ulcer, modern conception of surgical treatment (Skinner) 113.
Pericarditis, acute purulent, report of case (Finney and Morgan) 81.
Pneumonia death rate, reducing (Bryan) 69.
Public health organisation, sound, philosophy of (Baker) 416.
Pyelitis in infancy (Harper) 216.

S

- Sepsis, the doctor's number one problem (Chenault) 213.
Sims, James Marion (Bonner) 336.
Sims, James Marion, father of modern gynecology (Dabney) 333.
Status asthmaticus, specific chemotherapy in treatment, preliminary report (Weil and Climo) 370.
Sulfanilamide, psychosis precipitated by (Block) 339.
Sulfapyridine, its use in pneumococcic infections (Kennedy and Smith) 73.
Syphilis in private practice, case reports illustrating problems in management (Weil and Smith) 43.
Syphilis in private practice, the differential diagnosis of venereal diseases (Lafferty) 50.

T

- Thyroid disease, clinical aspects (Taylor) 141.
Tuberculosis control activities in a North Alabama county (Harper) 177.
Tumors, mediastinal in children (Monsky) 37.

U

- Urology in Alabama, history (Reaves) 258.
U. S. P., N. F. and N. N. R. drugs, plea for use (Bliss) 217.

V

- Vitamins, use in eye, ear, nose and throat practice (Clements and Searcy) 109.

III. EDITORIALS

A

- Absorption of catgut in human beings 59.
Among our advertisers 277.
Appendicitis 20.

B

- Association Forum article 228.
Barbiturates, indiscriminate sale 313.
Birmingham meeting 380.
Bleeding peptic ulcer 58.
Bromide intoxication 226.

C

- Commonwealth Fund's postgraduate fellowships 276.
Convulsions in childhood 276.

D

- Delirium tremens, treatment 124.

F

- Focal infection 348.

H

- Heart in anemia 154.

M

- Medical care services in cooperation with the Farm Security Administration 184.

O

- On caring for the aged 380.
Otitis and sinusitis in swimmers 312.

P

- Pellagra 86.
Pelvic infections in women 185.
Physicians honored 58.
Platform of the American Medical Association 224.
Postgraduate education in Alabama 20.
Prevention of cancer 87.

R

- Report of the board 424.

S

Signing birth and death certificates 59.

T

Treatment of rheumatoid arthritis 422.

U

Uterine bleeding 313.

IV. TRANSACTIONS OF THE ASSOCIATION**1940**

Committee reports 389.
Officers of the Association 469.
President's message 382.
Program of annual session 320.
Registration at 73rd consecutive annual session 470.
Report of Secretary and Acting Treasurer 386.
Report of State Board of Censors 427.
 as Board of Medical Examiners 440.
 as State Committee of Public Health 441.
Reports of Vice-Presidents 384.
Revision of rolls 463.
Roll of correspondents 468.
Roll of counsellors, alphabetically 465.
 by districts 466.
Schedule of annual sessions and presidents 468.
Schedule of Jerome Cochran lecturers 469.
Secretaries of M. A. S. A. 468.
Summary of annual attendance 475.
Treasurers of M. A. S. A. 469.

V. THE ASSOCIATION FORUM

Alabama's proposed prenuptial legislation, analysis 91.
Cancer facilities in Alabama, report of survey 87.
Commonwealth Fund's expanded activities in Alabama 228.
Hospital situation in Alabama 278.
Legislature of 1939, 125.
New possibilities of federal aid for hospital building in needy rural areas 233.
Venereal disease control, another forward step 130.
Venereal disease program in Alabama, expanded 22.
Wagner hospital construction bill 426.

VI. COMMITTEE CONTRIBUTIONS

Cancer in women (Prevention of Cancer) 24.
 of the uterus (Prevention of Cancer) 280.
Carcinoma of the breast (Prevention of Cancer) 234.
Clubs for expectant mothers (Maternal and Infant Welfare) 315.
Cooperative medical societies in Wilcox County (Jones) (Public Relations) 186.
Cost of hospital maintenance (Public Relations) 316.
Healthy workers in the home (Maternal and Infant Welfare) 95.

Home for indigent incurable cancer patients (Prevention of Cancer) 132.
Maternal and infant welfare 155, 349.
Maternal care, economic status (Maternal and Infant Welfare) 24.
Obstetric deaths (Maternal and Infant Welfare) 234.
Obstetrics, nitrous oxide and oxygen in home (Maternal and Infant Welfare) 281.
Postgraduate study 349.
Prevention of cancer 94.
Program of Section on Medicine, American Congress on Obstetrics and Gynecology (Committee on Maternal and Infant Welfare) 60.
Report from Wilcox County Medical Society cooperating with Farm Security Administration (Public Relations) 94.
Syphilis and pregnancy (Maternal and Infant Welfare) 192.
Uterine bleeding (Prevention of Cancer) 315.
Wilcox County's 1940 FSA contract (Public Relations) 317.
Women's Field Army (Prevention of Cancer) 315, 349.

VII. DEPARTMENT OF PUBLIC HEALTH**A**

A communication regarding New York's premarital examination law 133.

C

Cancer, reporting 63.
Current statistics 29, 66, 100, 138, 161, 198, 243, 288, 329, 358, 404, 482.

D

Decennial revision of certificate forms 239.
Diphtheria, relation to prior immunization 477.
Diseases reported during 1939, 325.
Divorces in Alabama 64.

E

Environmental sanitation in 1939, trends 327.

F

Farm home accidents 352.
 industrial accidents 402.

G

Gonorrhea 98.
 treatment 285.

H

Halitosis 400.
Health services in schools, health workers cooperate with school personnel 285.

I

Immunization against diphtheria, new recommendations for artificial 284.
Impounded water projects, minor 136.
Inspection activities, progress 28.

L

Laboratories, organization and administration 25.
Late syphilis, treatment 399.
Location of fatal farm accidents 328.

M

Macon County maternity project 194.
Malaria in relationship to farm fish ponds 160.
 thick film examinations 96.
Marriages terminated by divorce in Alabama,
 duration 159.
Maternal and child health services in Alabama,
 1938-1939, 157.
 accomplishments 27.
Maternal hygiene program, ideal 354.
Maternity clinics 236.
 standards for establishment and
 continuation 326.
Medical certification, cause of death 480.
Midwife instruction 63.
Milk-borne disease 399.
Mosquito control measures on small artificially
 created lakes, suggested methods 240.

O

Oral hygiene program 135.

P

Pasteurization, importance of 481.
Pellagra, nicotinic acid in treatment 97.
Pneumococcus typing again 193.
Pollution in private water supplies, experiences
 195.
Public health nursing, qualifications 98.

R

Record keeping, installation of mechanical sys-
 tem 237.
Rural sanitation 401.

S

School health work, Shelby County, 1938-39, 132.
 hygiene, correction of physical defects 282.
Serodiagnostic tests for syphilis, evaluation 324,
 398, 476.
 report of results of blood specimens 350.
Sewage disposal in Alabama, inventory 65.
Specimens examined 25, 62, 96, 156, 193, 235, 283,
 324, 350, 398, 476.
Syphilis and other venereal diseases 352.
 and phimosis 63.
 and pregnancy 194.
 diagnosis of early 235.
 secondary 284.
 late latent 325.
 new traveling unit for treatment 193.
 stage 238.

T

Teeth of white and Negro school children, com-
 parative study 478.
Tuberculosis sanatoria in Alabama, work 351.
Tularemia 156.
Typhoid vaccine 62.
Typhus fever control, by rat extermination 354.

V

Venereal disease laws, amendments 134.

W

Water supplies and treatment plants in Alabama,
 1939, inventory 99.

VIII. BOOK ABSTRACTS AND REVIEWS

A

Accepted foods and their nutritional significance:
 Council on Foods of A. M. A. 290.
A history of tropical medicine: Scott 407.
A manual of fractures and dislocations: Stimson
 67.
An introduction to sociology and social problems:
 Jensen 101.
Annual reprint of the reports of the Council on
 Pharmacy and Chemistry of the American
 Medical Association for 1938: 103.
A textbook of clinical neurology: Wechsler 35.
A textbook of obstetrics, with special reference
 to nursing care: Reed and Cooley 408.

B

Baptism of the infant and the fetus: An outline
 for the use of doctors and nurses: Bowen 140.
Brucellosis in man and animals: Huddleson,
 Hardy, Bebono and Giltner 358.

C

Cancer handbook of the tumor clinic, Stanford
 University School of Medicine: Liljencrantz
 100.
Cancer of the larynx: Jackson and Jackson 359.
Cardiovascular diseases: their diagnosis and
 treatment: Scherf and Boyd 364.
Clinical biochemistry: Cantarow and Trumper 33.
Clinical diagnosis by laboratory methods: Todd
 and Sanford 163.
Clinical gastroenterology: Soper 32.
Clinical use of sulfanilamide and sulfapyridine
 and allied compounds: Long and Bliss 165.
Community health organization: Hiscock 34.

D

Directory of medical specialists: edited by Titus
 and Rodman 407.
Diseases of the mouth and their treatment: a text-
 book for practitioners and students of medicine
 and dentistry: Prinz and Greenbaum 360.
Diseases of the skin: Sutton and Sutton: 162.
Do you want to become a doctor?: Fishbein 103.

E

Endocrinology in modern practice: Wolf 103.
Epidemic encephalitis: Rappleye 163.
Epidemiology in country practice: Pickles 200.

F

- Factual data on medical economics: Bureau of Medical Economics, A. M. A. 35.
Fleas of Eastern United States: Fox 359.
Functional disorders of the foot: their diagnosis and treatment: Dickson and Devey 362.

G

- Getting ready to be a father: Corbin 66.
Gonorrhea in the male and female: Pelouze 33.

H

- Handbook of orthopedic surgery: Shands and Raney 364.
Health officer's manual: Geiger 68.
Heart patients, their study and care: Smith 67.
Human helminthology: Faust 363.

I

- Immunity: Zinsser, Enders and Fothergill 162.
Injection treatment of hernia, hydrocele, ganglion, hemorrhoids, prostate gland, angioma, varicocele, varicose veins, bursae and joints: Riddle 362.

M

- Malaria education: Rood 34.
Medical jurisprudence and toxicology: McNally 164.
Medicolegal phases of occupational diseases: Sappington 140.
Menstrual disorders: Fluhmann 162.
Modern medicine in the U. S.—past achievements and solution of present day problems: Knopf 290.

N

- New and non-official remedies, 1939: 103.
Nutrition and diet in health and disease: McLester 290.

O

- Operative orthopedics: Campbell 163.
Organized payments for medical services: Bureau of Medical Economics, A. M. A. 34.

P

- Pathogenic microorganisms: Park and Williams 166.
Personal and community health: Turner 200.
Pneumoconiosis (silicosis): the story of dusty lungs: Cole and Cole 358.
Population, race and eugenics: Siegel 101.
Practice of allergy: Vaughan 102.
Primer of allergy: a guidebook for those who must find their way through the mazes of this strange and tantalizing state: Vaughan 360.
Principles of hematology: with 100 illustrative cases: Haden 32.
Psychobiology and psychiatry. A textbook of normal and abnormal human behavior: Muncie and Meyer 292.
Publications of the American Association for the Advancement of Science No. 6. Syphilis: Moulton 166.
Public health law: Tobey 35.

R

- Report of the International Health Division of the Rockefeller Foundation for 1938, 164.

S

- Scarlet fever: Dick and Dick 359.
Sexual pathology: a study of derangements of the sexual instincts: Hirschfeld 364.
Short stature and height increase: Gerling 34.
Stedman's practical medical dictionary: Stedman and Garber 164.
Supervision in public health nursing: Hodgson 292.
Surgery of the eye: Weiner and Alvis 200.
Surgical anatomy: Callender 32.
Surgical pathology of the diseases of the mouth and jaws: Hertzler 31.
Surgical treatment of hand and forearm infections: Brickel 33.
Synopsis of pediatrics: Zahorsky and Zahorsky 290.
Syphilis and its accomplices in mischief: society, the state and the physician: Katsainos 292.

T

- Teaching procedures in health education: Conrad and Meister 68.
Ten years in the Congo: Davis 406.
Textbook of nervous diseases: Bing and Haymaker 363.
Textbook of surgery: 188 American authorities. Edited by Christopher 67.
The 1939 year book of pediatrics: Abt and Abt 360.
The abnormal in obstetrics: Berkeley, Bonney and MacLeod 407.
The art of anesthesia: Flag 139.
The essentials of applied medical laboratory technic: Feder 359.
The foundation of nutrition: Rose 32.
The newer knowledge of nutrition: McCollum, Orent-Keiles and Day 101.
The patient's dilemma: the quest for medical security in America: Cabot 361.
The patient as a person: Robinson 140.
The rectum and colon: Hayden 363.
The vitamins: Council on Pharmacy and Chemistry and Council on Foods of A. M. A. 165.
Treatment in general practice. The management of some major disorders 163.
Tuberculosis education: Rood 100.
Twenty-eight years of sterilization in California: Popenoe and Gosney 67.

V

- Varicose veins: Ochsner and Henderson 104.
Virus and rickettsial diseases with especial consideration of their public health significance: Zinsser 360.

W

- What it means to be a doctor: Anderson 32.

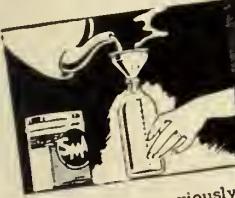
Y

- Your health dramatized: selected radio scripts: Bauer and Edgley 139.

S.M.A. SAVES TIME—SAVES MONEY



Empty measuring cupful of S.M.A. Powder firmly packed, level full, into funnel, using scraper for pushing powder into bottle.



Add one ounce of hot, previously boiled water for each measuring cupful of S.M.A. Powder.



Cap bottle and shake contents until thoroughly mixed. Place in refrigerator until ready to use. Then bring to body temperature before feeding.



Enough For 24 Hours Made up at Beginning of Day

S.M.A. is so easy to prepare. Enough for the entire 24 hour period may be made up at the beginning of the day and stored in the refrigerator until ready to feed. It should then be brought to body temperature and fed at prescribed intervals.

S.M.A. is economical, too, be-

cause, aside from orange or tomato juice for the required vitamin C, no other vitamin supplements are usually necessary. S.M.A. provides vitamins A, B₁ and D in amounts sufficient for the normal, full-term infant. When kept in the refrigerator, it retains its nutritional value indefinitely.

S.M.A. IS ECONOMICAL. INFANTS RELISH IT, DIGEST IT EASILY AND THRIVE ON IT.

S. M. A. is a food for infants — derived from tuberculin-tested cow's milk, the fat of which is replaced by animal and vegetable fats including biologically tested cod liver oil; with the addition of milk sugar and potassium chloride;



altogether forming an antirachitic food. When diluted according to directions, it is essentially similar to human milk in percentages of protein, fat, carbohydrate and ash, in chemical constants of the fat and physical properties.

S.M.A. CORPORATION • 8100 McCORMICK BOULEVARD • CHICAGO, ILLINOIS

Miscellany

ASTHMA TREATMENT MUST COMBAT CAUSE IN ADDITION TO WHEEZY BREATHING

The wheezy breathing of asthma is merely a symptom, and the important part of the treatment must be to find and remove the cause, Francis M. Rackemann, M. D., Boston, declares in *The Journal of the American Medical Association* for May 18. His article is one of a series developed through the co-operation of the U. S. Pharmacopeial Committee of Revision and *The Journal* for the purpose of extending information concerning the official and other medicines.

He points out, however, that the majority of patients must have drugs of some sort for relief of their distress, and they may need other drugs for the treatment of the underlying causes of the asthma.

Only a fraction of cases are so simple that finding and removing the allergic factor is the only treatment required, Dr. Rackemann says. The patient may suffer severely while the allergic factor is being determined or because of the difficulty of eliminating it. And although deaths from asthma alone are not common, death may occur from suffocation produced by the formation of tough sticky plugs of mucus in the windpipe.

The first principle of treatment is to avoid those factors to which the patient is sensitive, such as certain types of dust, foods or drugs. In the meantime, however, the discomfort of wheezy breathing may be relieved by drugs, such as ephedrine and epinephrine, administered by spraying. In severe cases, however, Dr. Rackemann recommends the injection of drugs by vein, the immediate administration of water, salt and sugar, blood transfusions and adequate rest and sleep. The use of an oxygen tent not only eases the breathing but also provides almost perfect air conditioning from allergic factors.

Other forms of treatment are necessary for the organic nasal and sinus defects which complicate asthma. "Lesions of the nose and sinuses are so common in asthma that they may be regarded as a part of the process and not as a cause of it," Dr. Rackemann says. "This new regard explains why it is that the results of operation on the nose and sinuses

are so often disappointing or at least have only a temporary good effect."

Instead of operation he recommends the spraying of drugs in the nose to shrink the nasal mucous membranes and thus promote drainage of the sinuses. He warns, however, that too much shrinkage may inhibit the recovery of the membrane itself. The suction of sticky mucus from the windpipe by means of an instrument known as the bronchoscope is also effective.

The patient must be cared for as a whole, not merely as a "case of asthma," the author declares. Drugs and vitamins may be required for anemia, constipation, loss of appetite, debility and lack of proper nutrition.

Drugs must be used with the utmost care, as they may themselves produce allergy. Aspirin, morphine and the barbiturates are among those to which many persons are sensitive.

STUTTERING IS NOT JUST A BAD HABIT BUT A SYMPTOM OF NERVOUS TURMOIL

Stuttering is not just a bad speech habit that can be overcome by means of speech exercises but a symptom of basic nervous and emotional turmoil, James Sonnett Greene, M. D., New York, declares in the June issue of *Hygeia, The Health Magazine*. Thus the treatment of the condition requires a far reaching program in which speech training is the least important aspect.

Explaining the causes of stuttering, Dr. Greene maintains that there are certain people who inherit an emotional instability and who are chronic hesitators, manifesting their disorganization in psychomotor performance. Under the slightest emotional stress they demonstrate nonrhythmic or hesitant activity. They do not necessarily stutter in their speech; many of them demonstrate their stuttering in other ways: in sports or in playing musical instruments, for instance.

"This inborn liability to nervous disturbance," he says, "is not in itself enough to cause a speech disturbance in the child without a more immediate or precipitating cause, which may be an accident, a shock or a radical change of environment, such as occurs when the child breaks away from his family when he begins school life. In the course of time the speech function . . . becomes disorganized."



41A371

